SERWIS RTV
Wiesław Nowoświecki
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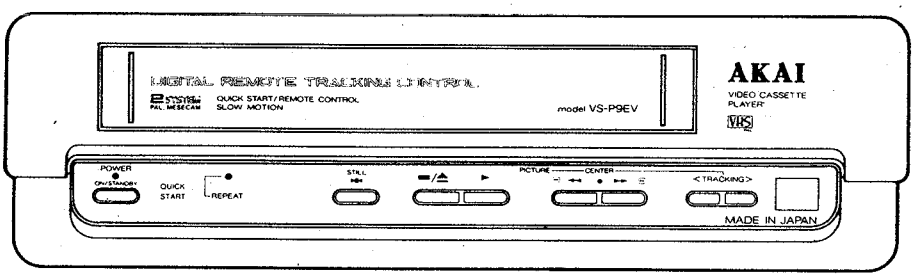
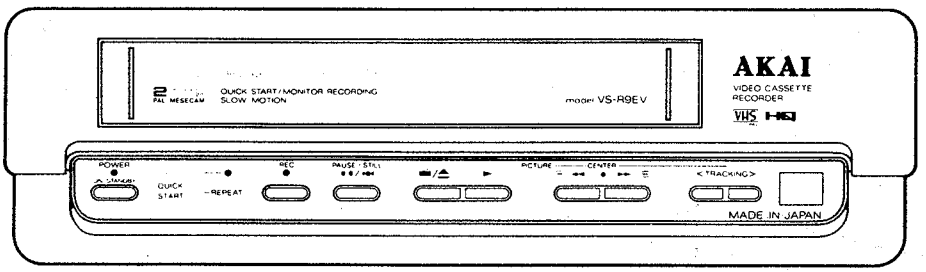
STARGARD SZCZECIŃSKI

AKAI SERVICE MANUAL



VHS PAL

MODEL VS-P9EV



VHS HQ HIGH QUALITY PAL

MODEL VS-R9EV

VIDEO CASSETTE PLAYER

MODEL VS-P84EG

MODEL VS-P9EA/EV

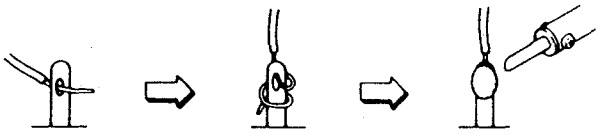
VIDEO CASSETTE RECODER

MODEL VS-R9EV

★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ (*) symbol are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.
The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal-input/output connectors, etc.) and the earth ground through a resister of 1500 ohms paralleled with a 0.15 μF capacitor, under the unit's normal working conditions. The leakage-current should be less than 0.5 mA rms AC.
The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 Mohms.

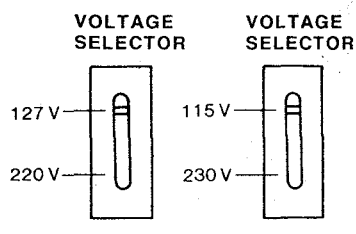
★INFORMATION

DESTINATION OF EACH MODEL

MODEL	PRINCIPAL DESTINATION
VS-P9/R9EV (U)	SOUTH-EAST ASIA/ MIDDLE EAST
VS-P9/R9EV (Y7)	SAUDI ARABIA

VOLTAGE CONVERSION (U Model only)

Before connecting the power cord. Set the VOLTAGE SELECTOR located on the rear panel with a screwdriver so that the correct voltage is indicated.



Y7 : MODEL U : MODEL

SYMBOLS OF MODEL NAME FOR PRIMARY DESTINATION

Symbol indicates the destination of the units as listed below.

Symbol	Classification	Principal Destination	System	
			Color	Broadcast
EA	S	Australia	PAL	B, G
ED	E	China	PAL	D
EDG	E	East Europe	PAL	D, K
EDI	E	China, Hong Kong	PAL	D, K, I
EG	E	Spain, Northern Europe, Other	PAL	B, G
	Y7	Saudi Arabia		
EK	B	U.K.	PAL	I
	Y1	Hong kong		
EM	E	Middle East	PAL	B,G
	Y7	Saudi Arabia		
EO	E	Holland, Switzerland, Northern Europe	PAL	B,G
	V	Italy		
EOH	E	Holland, Belgium	PAL	B, G
	V	Italy		
EOG	V	W.Germany	PAL	B, G
ES	E	South Africa, Ireland, Hong kong	PAL	I
EV	E	South-East Asia	PAL	B, G
	U	Middle East, South-East Asia		
	Y1	New Zealand		
	Y7	Saudi Arabia		
EZ	S	New Zealand	PAL	B, G
EGN	E	Middle East	PAL, NTSC	B, G
	Y7	Saudi Arabia		
S	E	France	SECAM	L
SK	E	Latin America, Oceania, SECAM-OIRT	SECAM	K, K1
SEG	E	France, Switzerland	SECAM, PAL	L, B, G
U	A	U.S.A.	NTSC	M
	C	Canada		
UM	U	Latin America	NTSC	M
J	J	Japan	NTSC	M

Quick start function

This VCR contains the quick start function.
When a video tape is inserted into this VCR, the QUICK START indicator will automatically light on the front panel. This indicates that the VCR is in the quick start mode and that any function button pressed will operate immediately. If a function button is not pressed within 5 minutes, the indicator will disappear and the VCR will be released from the quick start mode. If the play or record button is pressed after the indicator has disappeared, there will be a short time before the VCR responds.

Automatic functions

This VCR contains the following auto functions.

1. Auto power on
   The VCR power is automatically turned on when the tape is inserted.
2. Auto play
   If the video tape's recording defeat tab has been removed, playback will begin automatically when the tape is inserted into the VCR.
3. Auto tape reject
   If a video tape with its recording defeat tab removed is loaded, the VCR will automatically eject it when the REC button is pressed.
4. Power off eject
   Even when the VCR's power is off, pressing the EJECT button will turn the power on and eject the tape. Once ejected the power will be turned off automatically.
5. Auto rewind
   The video tape is automatically rewound when the end of the tape is reached during the play, recording or quick finder forward mode. (Auto rewind will not function during the next mode when it has been set after the timer recording, fast forward or recording mode.)

SPECIFCATIONS

MODEL VS-P84EG, VS-P9EA,EV

Format	VHS Standard
Rotary heads	2 video heads
RF output	
EA	System B type modulation VHF channels 0, 1 switchable (preset to channel 0)
EG	System G type modulation UHF ch 30-39 adjustable (preset ch 36)
EV	System B type modulation VHF channels 3, 4 switchable (preset to channel 4)
Playback (Line output)	
EA	PAL, CCIR (System B, G, I)
EG, EV	PAL, SECAM (MESECAM tape)
Video	
Line output level	1.0 Vp-p/75 ohms, unbalanced
S/N	More than 43 dB
Horizontal resolution	More than 250 lines
Audio	
Line output level	-4 dBs/1 k ohms, unbalanced
S/N	More than 40 dB
Frequency response	70 Hz to 10,000 Hz
Playback time	240 min. with E-240 cassette
Tape speed	23. 39 mm/sec.
Quick finder	Approx. 7 times normal speed
FF, REW time	Approx. 5 min. with E-180 cassette
Power requirements	
EA	240 V, 50 Hz
EG	220 V, 50 Hz
EV	240 V, 50 Hz for Kuwait 127 V/220 V, 50/60 Hz for Saudi Arabia 115/230 V, 50/60 Hz for other countries
Power consumption	27 W
Operating temperature	5°C to 40°C
Dimensions	286 (W) × 82 (H) × 329 (D) mm
Weight	4.7 kg

Standard accessories

Remote control unit (RC-V84B)	1
Batteries for remote control	2
RF antenna cable	1
Operator's manual	1

MODEL VS-R9EV

Format	VHS Standard (PAL, MESECAM)
Videorecording system	Rotary, slant azimuth two-head helical scan system
Rotary heads	2 video heads
RF output	System B type modulation VHF channels 3, 4 switchabl (preset to channel 4)
Recording (Line input)	PAL, SECAM (MESECAM tape)
Playback (Line output)	PAL, SECAM (MESECAM tape)
Video	
Line input level	0.5 to 2.0 Vp-p/75 ohms
Line output level	1.0 Vp-p/75 ohms, unbalanced
S/N	More than 43 dB
Horizontal resolution	More than 250 lines
Audio	
Line input level	−8 dBs/50 k ohms, unbalanced
Line output level	−4 dBs/1 k ohms, unbalanced
S/N	More than 40 dB
Frequency response	70 Hz to 10,000 Hz
Playback and recording time	240 min. with E-240 cassette
Tape speed	23.39 mm/sec.
Quick finder	Approx. 7 times normal speed
FF, REW time	Approx. 5 min. with E-180 cassette
Power requirements	127 V/220 V, 50/60 Hz convertible for Saudi Arabia 240 V, 50 Hz for Kuwait 115 V/230 V AC 50/60 Hz convertible for other countries
Power consumption	27 W
Operating temperature	5°C to 40°C
Dimensions	286 (W) × 82 (H) × 329 (D) mm
Weight	4.8 kg

Standard accessories

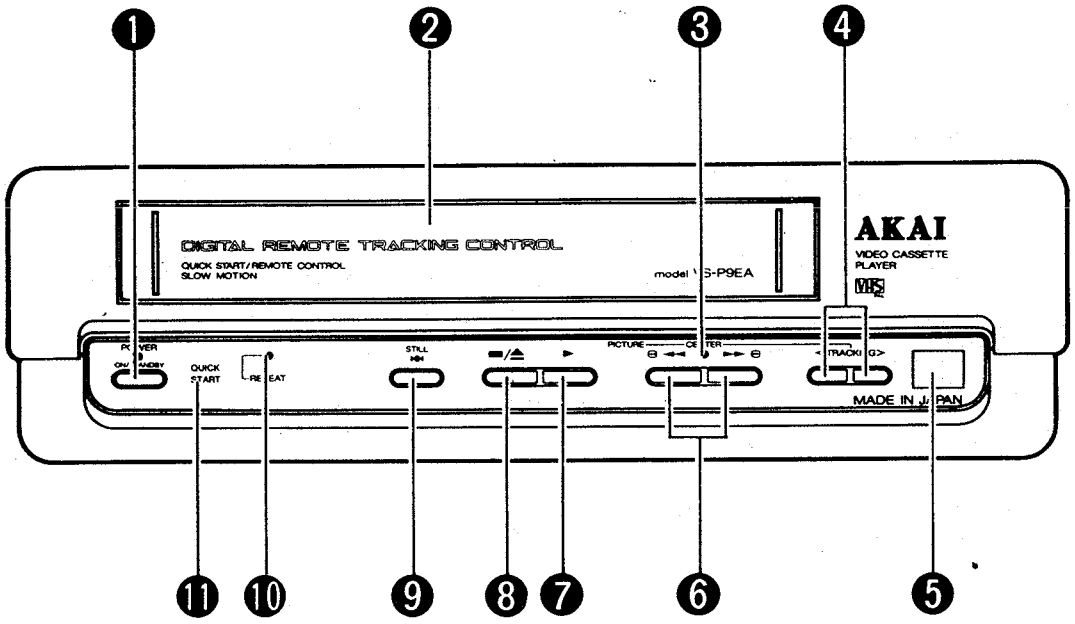
Remote control unit (RC-V85A)	1
Batteries for remote control	2
RF antenna cable	1
Operator's manual	1

0dBs=0.775V

* For improvement purposes, specifications and design are subject to change without notice.

I. CONTROLS

1-1. FRONT PANEL (VS-P9EA, EV/P84EG)



❶ POWER ON/STANDBY button and indicator
To turn the power on and off (Standby mode).
The red indicator will light up when the standby mode and the green indicator will light up when turned on the power.

❷ Cassette loading compartment and Door
Load the video cassette tape here.

❸ CENTER indicator
Tells you the tracking control or the picture sharpness control is set to the initial position during tracking adjustment or picture sharpness adjustment.

❹ TRACKING (</>) buttons
To adjust tracking during playback.

❺ Remote sensor window
For remote control operation.

❻ Fast forward/Rewind, Quick finder buttons and indicators
For quick tape winding and Quick finder playback in the playback mode.

❼ ▶ (Play) button and indicator
To start playback.

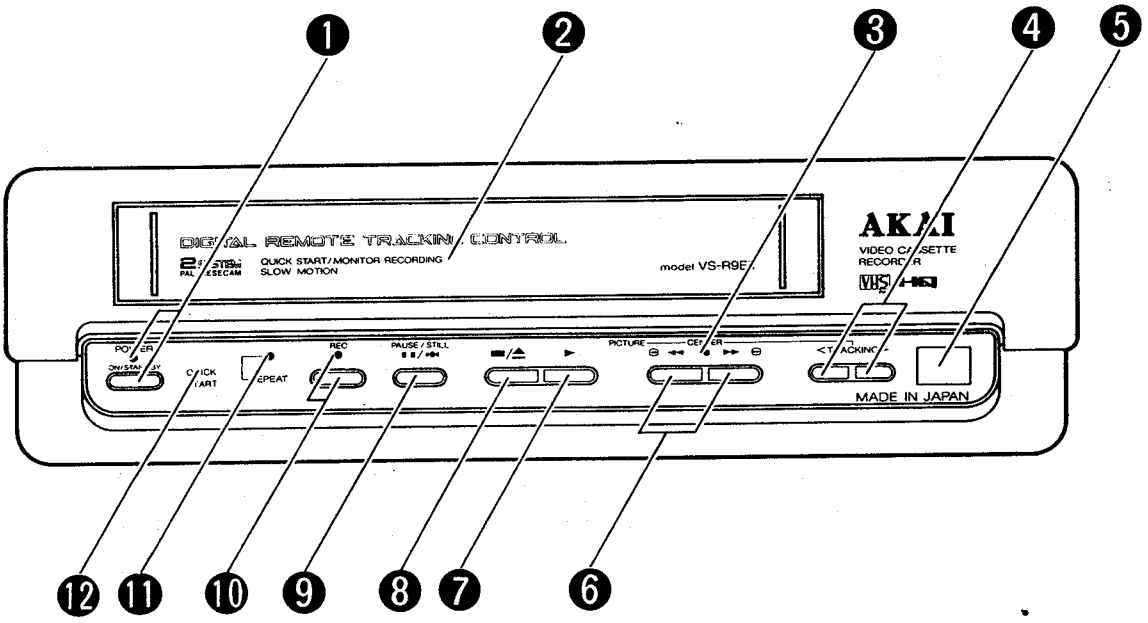
❽ ■/⏏ (Stop/Eject) button
To stop the video cassette player and eject the video cassette tape.

❾ STILL (⏭) button
To freeze the playback picture.

❿ REPEAT indicator
Tells you the repeat playback is engaged.

⓫ QUICK START indicator
Tells you the tape is loaded and in the playback standby mode.

1-2. FRONT PANEL (VS-R9EV)



❶ **POWER ON/STANDBY button and indicator**
To turn the power on and off (Standby mode).
The red indicator will light up when the standby mode and the green indicator will light up when turned on the power.

❷ **Cassette loading compartment and door**
Load the video cassette tape here.

❸ **CENTER indicator**
Tells you the tracking control or the picture sharpness control is set to the initial position during tracking adjustment or picture sharpness adjustment.

❹ **TRACKING (< / >) buttons**
To adjust tracking during playback.

❺ **Remote sensor window**
For remote control operation.

❻ **Fast forward/Rewind, Quick finder buttons and indicators**
For quick tape winding and playback in the playback mode.

❼ **▶ (Play) button and indicator**
To start playback.

❽ **■/⏏ (Stop/Eject) button**
To stop the video cassette player and eject the video cassette tape.

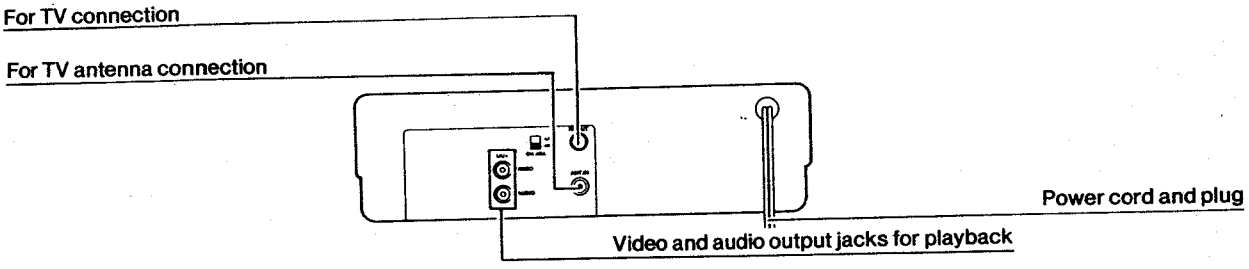
❾ **PAUSE/STILL (▮▮/⏭) button**
To freeze the playback picture during playback, and to temporarily stop the recording operation.

❿ **REC button and indicator**
To start recording.

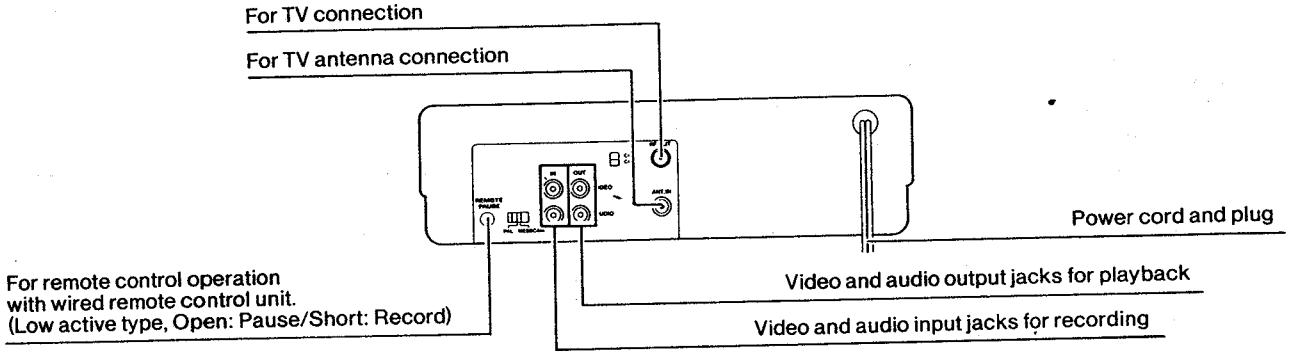
⓫ **REPEAT indicator**
Tells you the repeat playback is engaged.

⓬ **QUICK START indicator**
Tells you the tape is loaded and in the playback/recording standby mode.

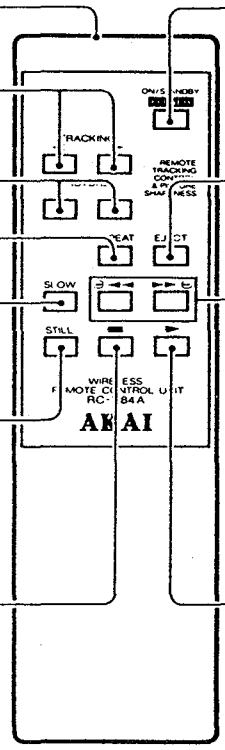
1-3. REAR PANEL (VS-P9EA, EV/P84EG)



1-4. REAR PANEL (VS-R9EV)


For TV connection
For TV antenna connection
Power cord and plug
For remote control operation
with wired remote control unit.
(Low active type, Open: Pause/Short: Record)
Video and audio output jacks for playback
Video and audio input jacks for recording

1-5. REMOTE CONTROL (RC-V84B)



Transmitting window

TRACKING (< / >) button
To adjust tracking during playback.

PICTURE (+/—) buttons
To adjust sharpness of the playback picture.

REPEAT button
For infinite repeat playback.

SLOW button
For slow speed playback.

STILL button
For freeze frame playback.

■ button
To stop all of the operations.
* The ■ button cannot be used as the Eject button. It is only for stopping the tape.

POWER (ON/STANDBY) button

EJECT button
To eject the video cassette tape.

◀◀ and ▶▶ buttons
To wind the tape quickly and for quick finder playback.

▶ button
To start playback.

1-6. REMOTE CONTROL (RC-V85A)

Transmitting window

TV/VIDEO button
To turn the playback signal to the connected TV set on and off.

TRACKING (< / >) button
To adjust tracking during playback.

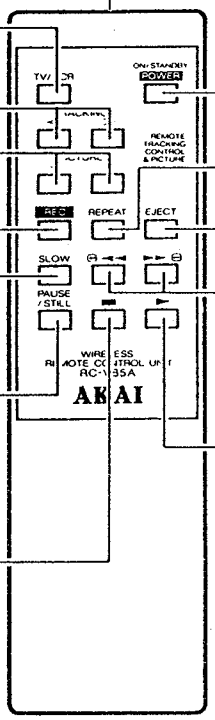
PICTURE (+/—) buttons
To adjust sharpness of the playback picture.

REC button
For recording operation.

SLOW button
For slow speed playback.

PAUSE/STILL button
For freeze frame playback and to temporarily stop recording.

■ button
To stop all of the operations.
* The ■ button cannot be used as the Eject button. It is only for stopping the tape.



POWER (ON/STANDBY) button

REPEAT button
For infinite repeat playback.

EJECT button
To eject the video cassette tape.

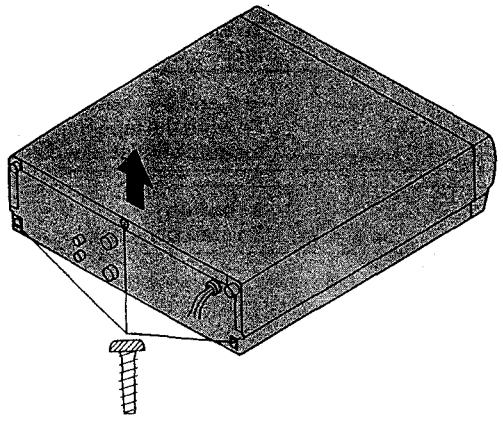
◀◀ and ▶▶ buttons
To wind the tape quickly and for quick finder playback.

▶ button
To start playback.

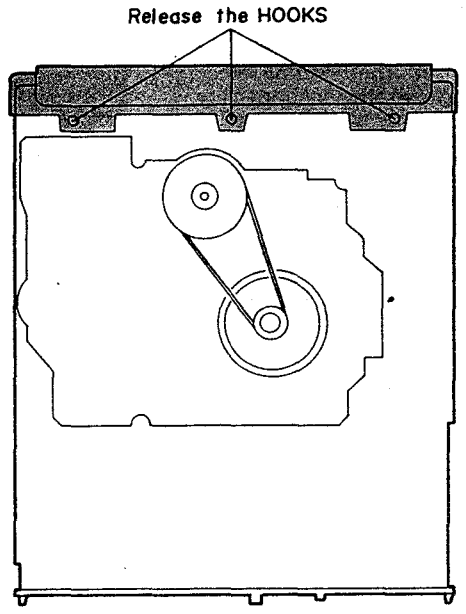
II. DISASSEMBLY

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the illustrations.
Reassemble in reverse order.
When re-attaching the FRONT PANEL, hold the cassette loading slot door in the upright (open) position.

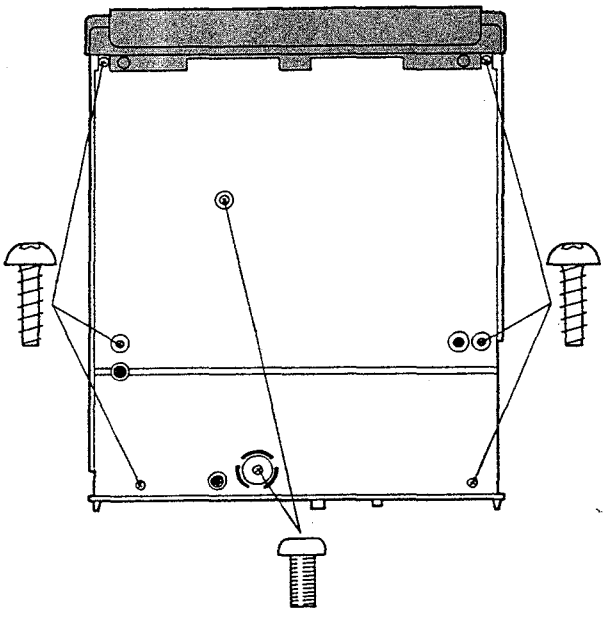
1. Removal of UPPER COVER

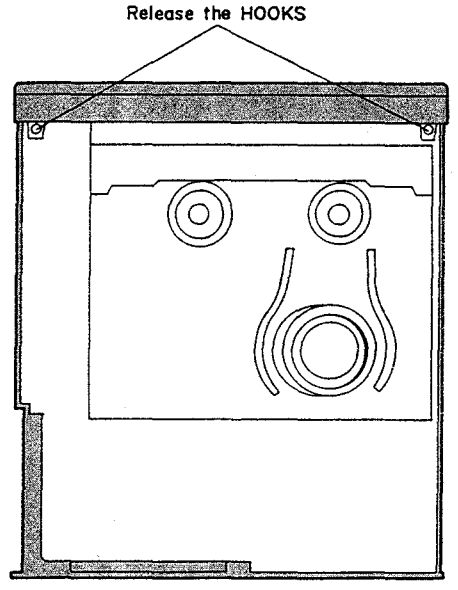


3. Removal of FRONT PANEL



2. Removal of Bottom Cover





III. PRINCIPAL PARTS LOCATION

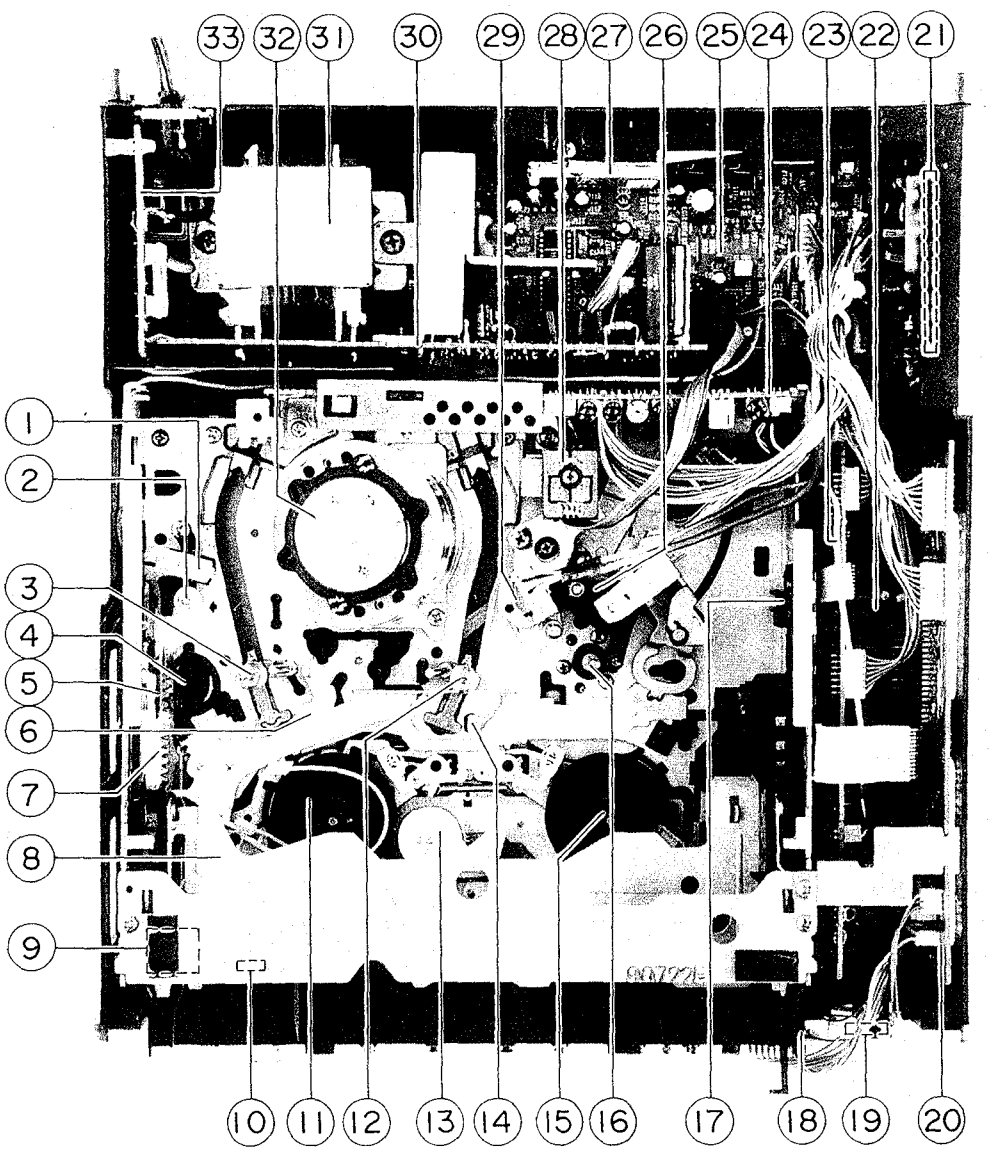


Fig.3-1 Top view

1. FULL TRACK ERASE HEAD (VS-R9EV ONLY)
2. SUPPLY TAPE GUIDE
3. SUPPLY LOADING LEADER
4. FRONT LOADING GEAR
5. SENSOR (S) PCB (END SENSOR)
6. TENSION ARM
7. FRONT LOADING SLIDER
8. CASSETTE LOAD BLK
9. LOADING MOTOR
10. REC SAFETY SWITCH
11. SUPPLY REEL TABLE
12. TAKE UP LOADING LEADER
13. IDLER PART
14. SENSOR LED
15. TAKE UP REEL TABLE
16. CAPSTAN MOTOR
17. SENSOR (T) (START SENSOR)
18. OPERATION PCB
19. REMOCON PCB
20. SYSCON PCB
21. CHROMA PCB
22. SERVO (B) PCB
23. SERVO (A) PCB
24. PRE AMP/AUDIO PCB
25. Y. SIGNAL PCB
26. PINCH ROLLER
27. RF CONVERTOR UNIT
28. DIODE PCB
29. AUDIO/CONTROL/S.ERASE HEAD (VS-R9EV ONLY)
30. POWER (A) PCB
31. POWER TRANSFORMER
32. VIDEO HEAD DRUM BLOCK
33. POWER (B) PCB

Fig.3-2 Bottom view

1. CAPSTAN MOTOR BLOCK
2. SENSOR PCB
3. CAPSTAN BELT
4. CLUTCH DISK PART
5. LOADING MOTOR
6. LOADING DRIVE BLOCK
7. CAM SLIDER GEAR
8. MODE SELECT SWITCH
9. FRONT LOADING GEAR
10. TOGGLE (S) GEAR BLOCK
11. TOGGLE (T) GEAR BLOCK
12. DRUM MOTOR BLOCK

4-1. REMOVAL OF THE EJECTOR BLOCK

*Set the loading mechanism to the "EJECT" position by pressing the EJECT button. Then disconnect the AC power plug from the AC socket before proceeding.

4-1-1. Removal of the CASSETTE LOAD BLK

1) Remove the two Ⓐ screws on the UPPER PLATE as shown in Fig.4-1 then remove the UPPER PLATE.
2) Lift up the FRONT GUIDE while pushing the CASSETTE LOAD BLK backward, then remove the FRONT GUIDE.
3) Lift up the front side of the CASSETTE LOAD BLK gently then remove it: To avoid damaging the pins of the CASSETTE LOAD BLK and the groove of the MECHA.FRAME, do not add excessive force to the CASSETTE LOAD BLK when removing it.

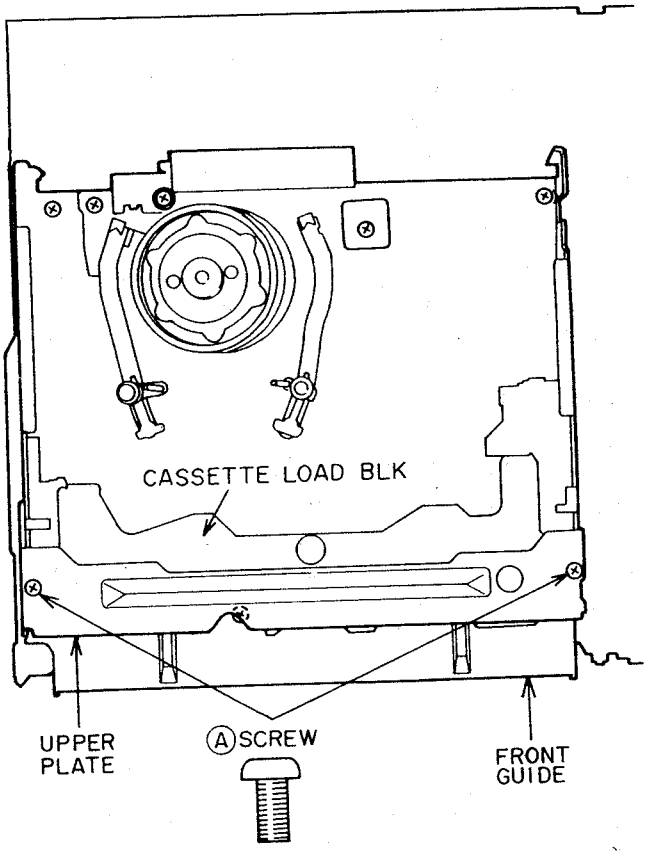


Fig. 4-1

4-1-2. Removal of the LOADING ARM BLK

1) Release the stopper on the right side end of the LOADING ARM BLK's shaft (Refer Fig.4-2) by pressing the stopper tab with a flat head (—) screwdriver. Then remove the shaft's right end from the bracket.

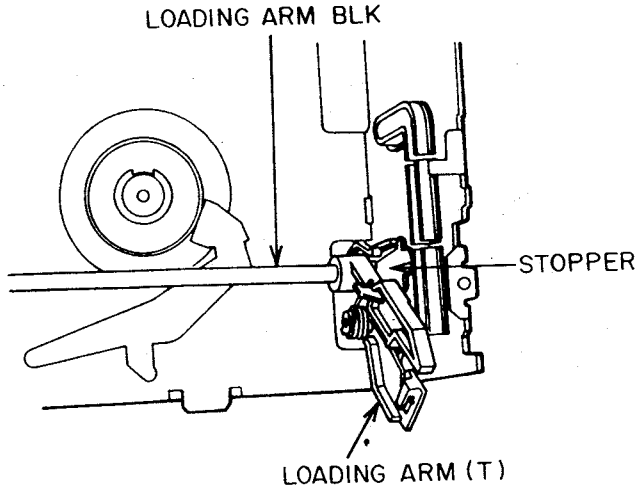


Fig. 4-2

2) Hold the LOADING ARM (T) and turn it 30 degrees clockwise, then pull out the shaft's left end from the bracket. To avoid damaging the JOINT GEAR and EJECT GEAR, take special care when removing. (Refer Fig.4-3)

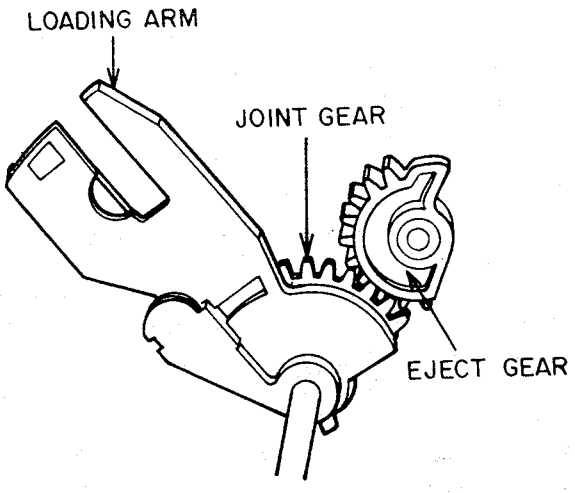


Fig. 4-3

4-2. REMOVAL OF THE SENSOR PC BOARD

*Before proceeding with removal of the SENSOR PCB the loading mechanism must be set to the "unloaded" position (the position where the CAM SLIDER GEAR's groove mark is visible through the hole of the MODE SELECT SW.) as shown in Fig.4-4.

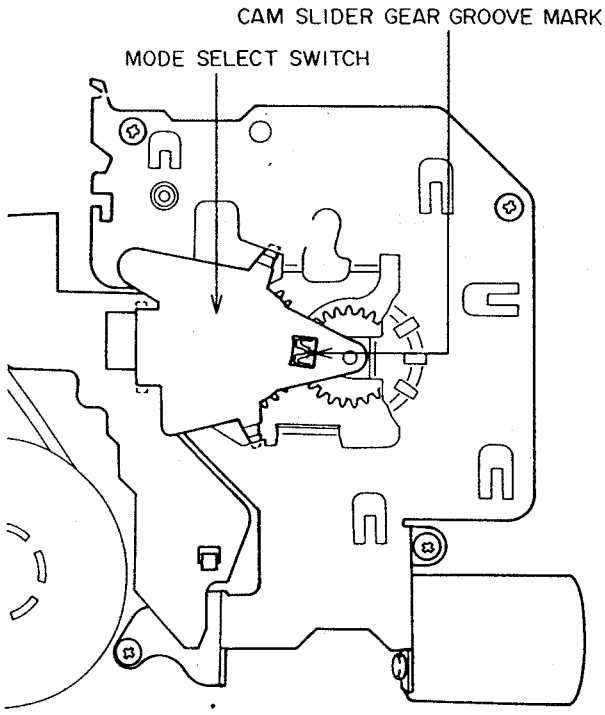


Fig. 4-4

To set the loading mechanism to the "unloaded" position, proceed with one of the following (1) or (2) procedures.

(1) Insert a video cassette tape which you no longer need. Once the tape has been loaded or entered "play" mode, press the POWER button to turn the power off. Disconnect the AC power plug from the AC socket after the cassette tape has been unloaded.

(2) Remove the UPPER PLATE, FRONT GUIDE and CASSETTE LOAD BLK. (Refer to 4-1-1. Removal of the CASSETTE LOAD BLK.)
Plug in the AC power cord. The LOADING ARM BLK will move backward (the cassette load BLK will be in the down position) and forward (the cassette load BLK will be in the eject position) continuously.
With your fingers, cover and hold both SENSOR (S) and SENSOR (T) at the same time when the LOADING ARM BLK is in the backward position. The unit will enter the "play" mode without the cassette tape. While covering both sensors, press the "POWER" button. The unit will now enter the "tape unloaded" position. Release your fingers from the sensors, and disconnect the AC power plug from the AC power socket.

4-2-1. Removal of the MODE SELECT SWITCH

1) Release the two Ⓐ stoppers as shown in Fig.4-5.

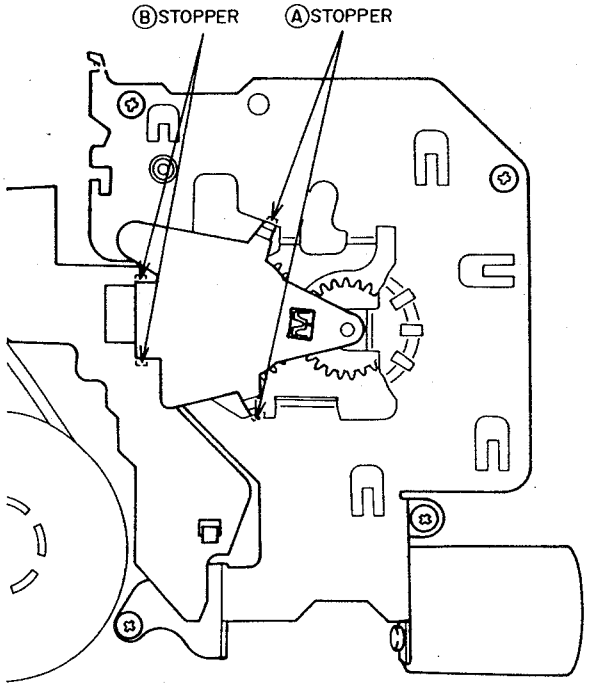


Fig. 4-5

2) Release the two Ⓑ stoppers carefully while pulling up the MODE SELECT SWITCH. Then remove the MODE SELECT SWITCH. (Do not damage the pins of the MODE SELECT SWITCH or the connector P1 on the SENSOR PCB)

4-2-2. Removal of the SENSOR PC Board

1) Disconnect the connector P409 on the MAIN PCB.
2) Remove the capstan belt.
3) Release the Ⓐ, Ⓑ, and Ⓒ stoppers as shown in Fig.4-6. Then remove the SENSOR PCB.

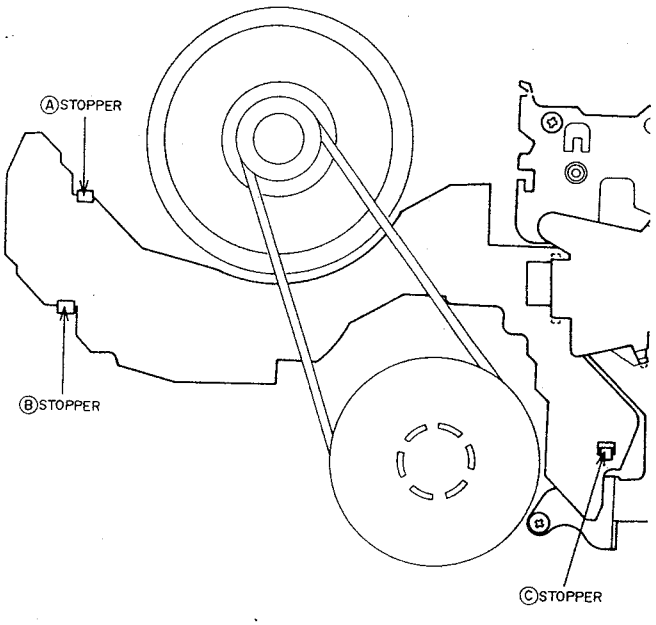


Fig. 4-6

4-3. REMOVAL OF THE LOADING DRIVE BLK

Set the loading mechanism at the "unloaded" position as well as 4-2 (REMOVAL OF THE SENSOR PC BOARD). However this time, to avoid damaging the tape and mechanical parts, refer to 4-2, *(2) only.

1) Remove the MODE SELECT SWITCH in the same manner as 4-2-1 (Removal of the MODE SELECT SWITCH).
2) Unhook the five wires from each tab. Two wires from the SENSOR(S), two wires from the LOADING MOTOR and one wire from the REC SAFETY SWITCH.
3) Remove the Ⓐ, Ⓑ, Ⓒ, and Ⓓ screws, then remove the LOADING DRIVE BLK as shown in Fig.4-7.

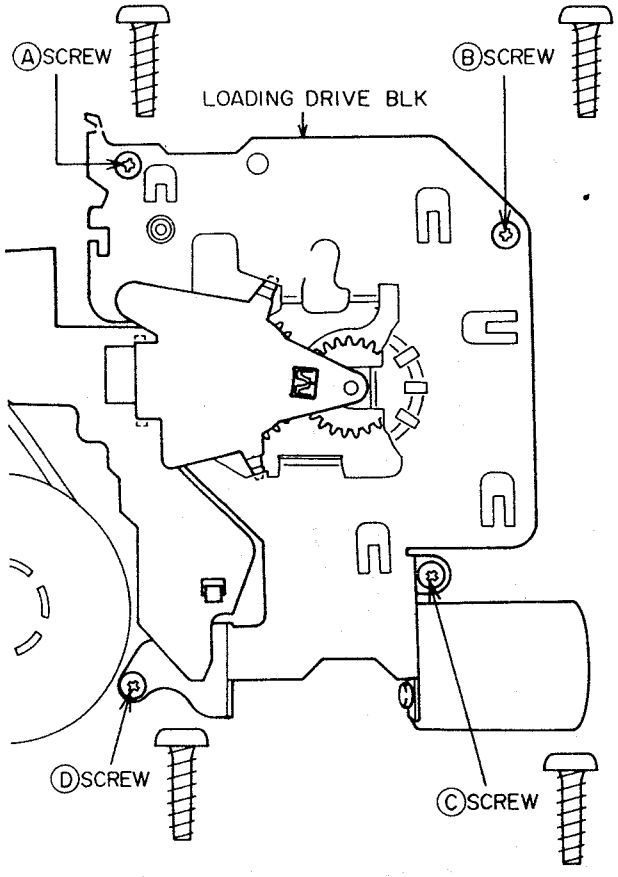


Fig. 4-7

4-4. REPLACEMENT OF THE PINCH HOLDER PART

1) Release the stopper of the PINCH ARM and remove the PINCH ARM BLK as shown in Fig 4-8.

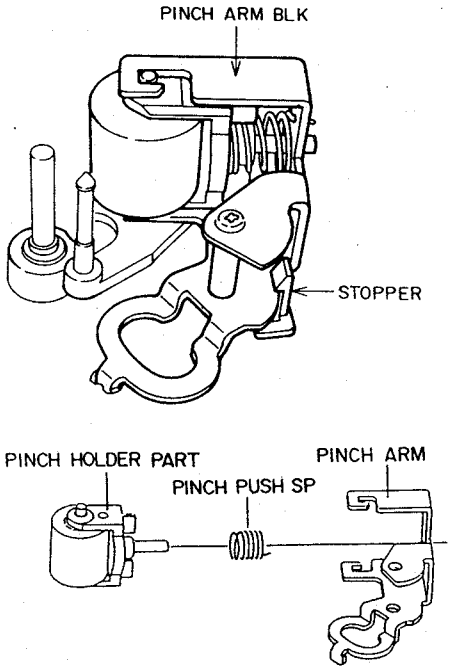


Fig. 4-8

2) Turn the PINCH HOLDER PART 30 degrees clockwise while pushing it backward and remove the PINCH HOLDER PART from the PINCH ARM.
3) Reassemble the PINCH ROLLER ARM BLK in the reverse order of 1) to 2).

4-5. REPLACEMENT OF THE IDLER PART AND REVIEW BRAKE PART

1) Remove the CASSETTE LOAD BLK & ARM LOADING BLK. (Refer to 4-1, REMOVAL OF THE EJECTOR BLK.)
2) Release the stopper of the IDLER PART as shown in Fig.4-9, then remove it.

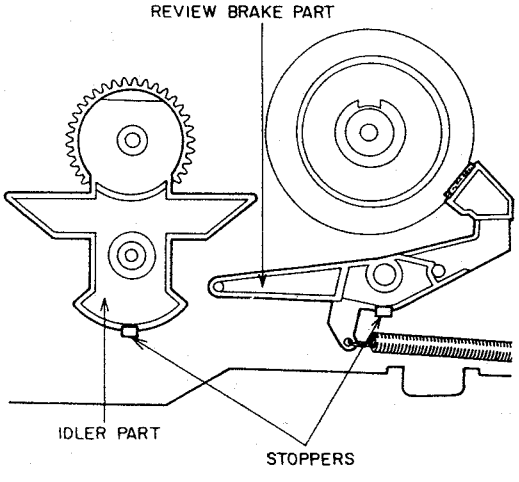


Fig. 4-9

3) Take off the review brake part spring, then release the stopper of the REVIEW BRAKE PART and remove it.
4) Reassemble these parts in the reverse order of 1) to 3).

4-6. REASSEMBLY OF THE LOADING MECHANISM BLK

4-6-1. Position of the TOGGLE GEARs (T) and (S)

1) Set the TOGGLE GEAR (T) and TOGGLE GEAR (S) to the unloaded position with your fingers. Align the Ⓐ mark on the TOGGLE GEAR (S) with the Ⓐ hole of the TOGGLE GEAR (T) as shown in Fig.4-10.

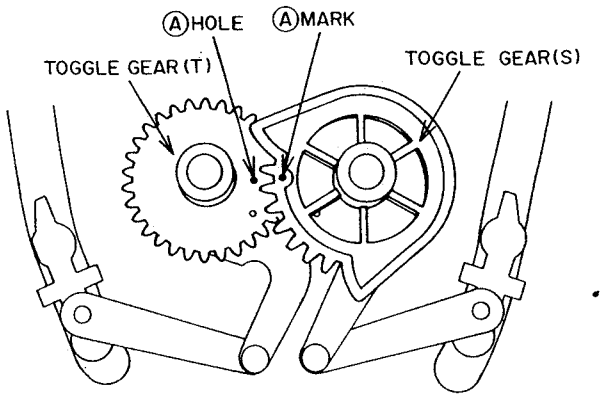


Fig. 4-10

4-6-2. Installation of the CAM SLIDER GEAR & FRONT LOADING GEAR

1) Attach the WORM WHEEL GEAR as shown in Fig.4-11.

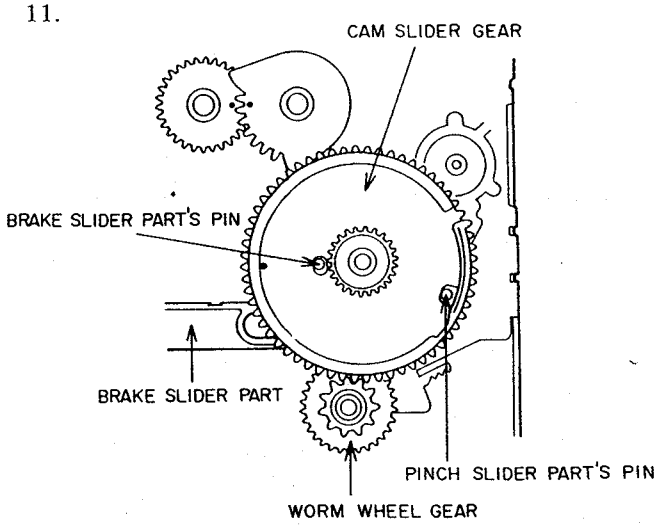


Fig 4-11

2) Set the CAM SLIDER GEAR. At this time, adjust the position of the BRAKE SLIDER PART and PINCH SLIDER PART so that both pins appear through the holes on the CAM SLIDER GEAR as shown in Fig.4-11.

3) Attach the FRONT LOADING GEAR as shown in Fig.4-12. At this time, align the Ⓑ mark on the FRONT LOADING GEAR with the Ⓑ hole of the FRONT LOADING SLIDER as shown in Fig.4-13.

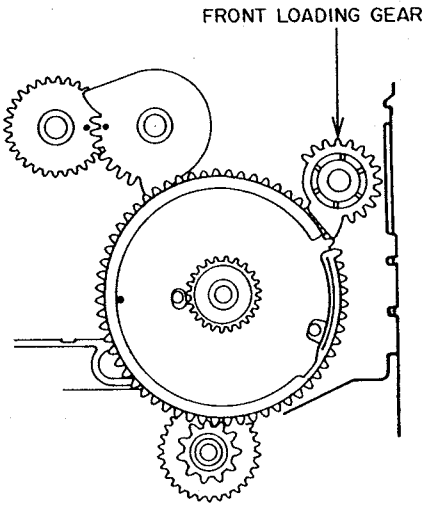


Fig. 4-12

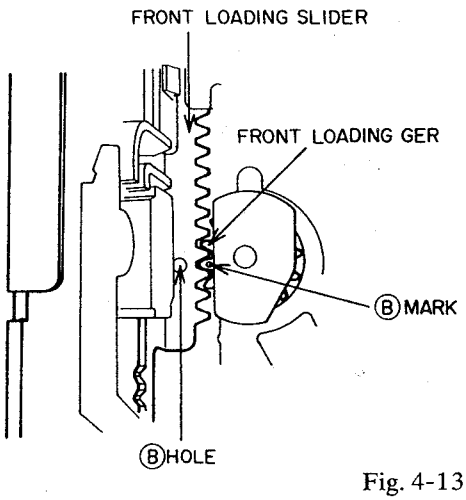


Fig. 4-13

4-6-3. Confirmation of the position of the EJECT GEAR

1) Confirm that the EJECT GEAR is in the correct position as shown in Fig.4-14.

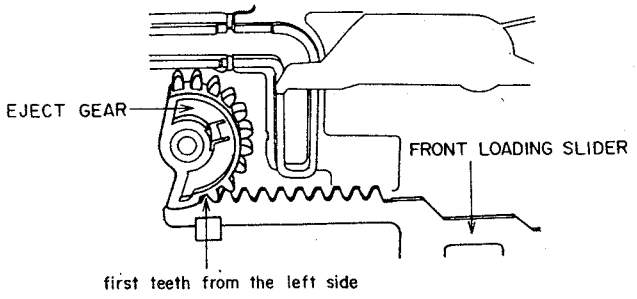


Fig. 4-14

2) Install the LOADING DRIVE BLK as shown in Fig.4-15.

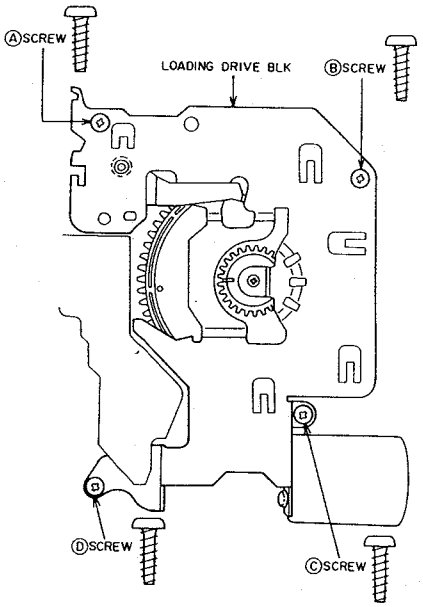


Fig. 4-15

4-6-4. Installation of the MODE SELECT SWITCH

1) Set the MODE SELECT SWITCH's gear so that the © mark is in the center of the © hole as shown in Fig.4-16.

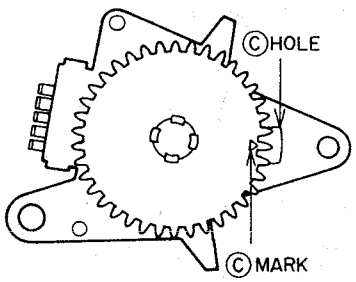


Fig. 4-16

2) Attach the MODE SELECT SWITCH to the LOADING DRIVE BLK. At this time, align the hollow of the gear's tooth (reverse side of the © mark) with the © groove of the CAM SLIDER GEAR as shown in Fig.4-17.

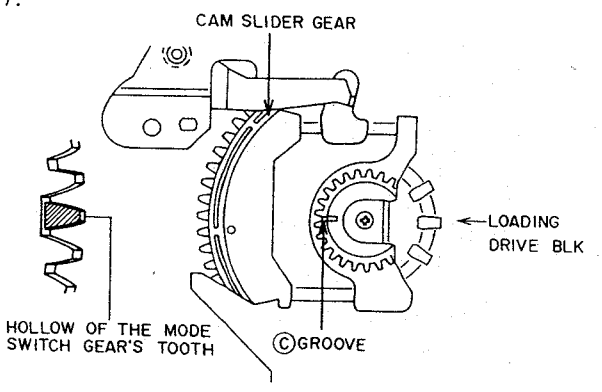


Fig. 4-17

4-6-5. Installation of the LOADING ARM BLK

1) While covering the SENSOR (S) with your fingers, connect the AC power plug to the AC socket. The FRONT LOADING SLIDER will reach the "EJECT" position. Then disconnect the AC power plug from the AC socket before you release your fingers from the SENSOR (S).
2) Install the LOADING ARM BLK in the reverse order of 4-1-2 (Removal of the LOADING ARM BLK). Set the position between both the EJECT GEAR and the JOINT GEAR as shown in Fig.4-18.

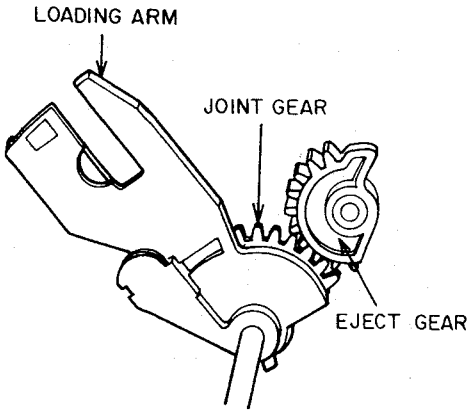


Fig. 4-18

4-6-6. Installation of the CASSETTE LOAD BLK, FRONT GUIDE and UPPER PLATE

1) Attach the CASSETTE LOAD BLK, FRONT GUIDE and UPPER PLATE in the reverse order of 4-1-1 (Removal of the CASSETTE LOAD BLK).
2) Insert a video cassette tape and confirm that the loading mechanism will operate properly.

4-7. REPLACEMENT OF THE UPPER DRUM

4-7-1. Removal of the UPPER DRUM

1) Unsolder the four relay leads and remove the two upper drum fixing screws as shown in Fig.4-19.
2) Gently lift and remove the UPPER DRUM.

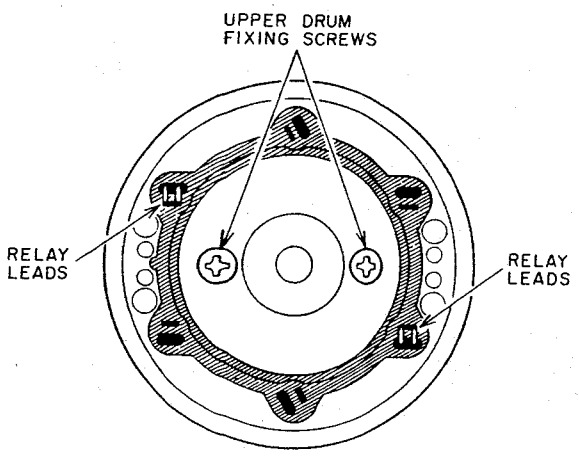


Fig. 4-19

4-7-2. Installation of the UPPER DRUM

1) Attach the UPPER DRUM to the LOWER DRUM so that the upper drum convex Ⓐ and lower drum white PCB side are in the same direction as shown in Fig.4-20.

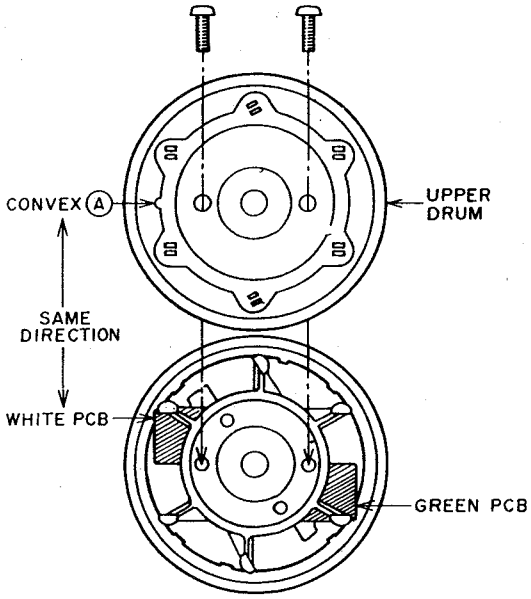


Fig. 4-20

NOTE: Because height precision is required for proper performance, and because head tips are fragile, the following points should be noted when replacing the UPPER DRUM BLOCK.

(a) Do not loosen the set screw on the collar preload.
(b) Before fixing, use alcohol to clean both surfaces where the upper drum and the rotary transformer meet.
(c) If the UPPER DRUM can not be inserted on to the shaft easily during installation, clean the hole in the UPPER DRUM with alcohol and put a little oil on the shaft.
(d) Make sure that the upper drum fixing screw holes on the rotary transformer part and the upper drum fixing screw penetration holes match exactly before inserting the fixing screws.
(e) Tighten the two upper drum fixing screws alternately and gradually.

4-7-3. After replacement

After replacement, the following adjustments are necessary for proper performance.

1) Control head phase adjustment. (Tape transport adj. 5-3-3)
2) PB switching point adjustment. (Electrical adj. Step 1)
3) Video head REC current adjustment. (Electrical adj. Step 7)

4-8. DRUM MOTOR PC BOARD REPLACEMENT

1) Remove the two Ⓐ screws then remove the ROTARY PLATE.

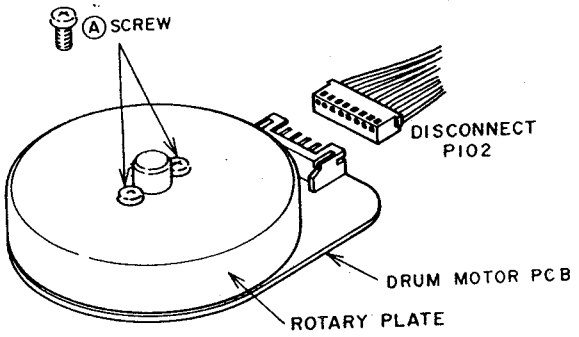


Fig. 4-21

2) Remove the three Ⓑ screws and disconnect the connector P102 from the DRUM MOTOR PCB. Then replace the DRUM MOTOR PCB.

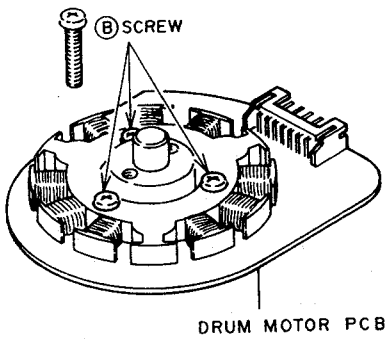


Fig. 4-22

3) Attatch the ROTARY PLATE to the collar preload so that the rotary plate ⓐ hole and collar preload ⓑ hole are in the same direction.

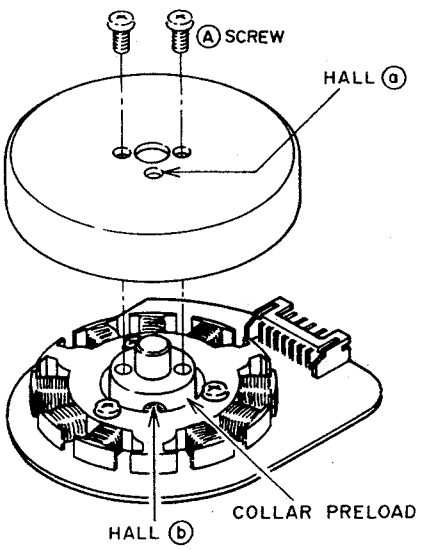


Fig. 4-23

4-9. REMOVAL OF THE MECHANISM BLOCK

4-9-1. Removal of the PRE AMP PC Board

1) Remove the two Ⓐ screws then pull up the PRE AMP PCB as shown in Fig.4-24.

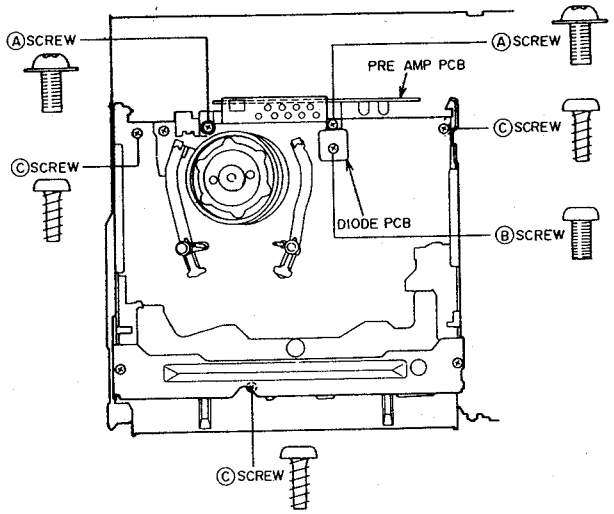


Fig. 4-24

4-9-2. Removal of the MECHANISM BLK (MECHA. FRAME)

1) Disconnect the connectors P501, P503 on the SERVO (A) PCB, and P1 on the A/C HEAD PCB.
2) Disconnect the connector P504 on the SYSCON PCB.
3) Remove the Ⓑ screw on the DIODE PCB and remove the DIODE PCB.
4) Remove the three Ⓒ screws from the MECHA. FRAME as shown in Fig.4-24.
5) Hold the rear side of the MECHA. FRAME then remove by pulling up backward.
6) Reassemble in the reverse order for installation.

V. MECHANICAL ADJUSTMENT

5-1. BACK TENSION ADJUSTMENT

1) Set the color bar test tape TF-532CBS (AT-751360) in the VCR and play it back.
2) Observe the TV screen and adjust the V-HOLD for TV so that the switching point appears on the TV screen in Fig. 5-1.

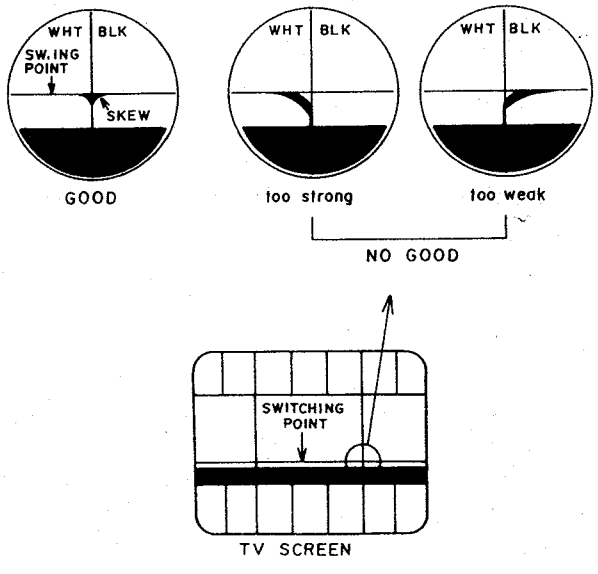


Fig. 5-1

3) Check the skew near the switching point on the TV screen and if the back tension is too much or too weak, eject the tape and select the hook position of the TENSION SPRING where the smallest skew should be obtained.

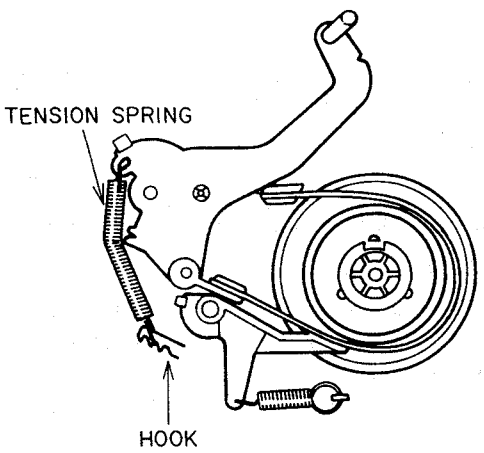


Fig. 5-2

5-2. TAPE TRANSPORT ADJUSTMENTS

NOTE: The following adjustments are required only when an irregularity is found since these adjustment are performed precisely at the factory.

5-2-1. Tape curl adjustment at the TAKE-UP TAPE GUIDE

1) Play back a recorded tape which is no longer need.
2) Turn the ⓐ screw on the A/C HEAD BLK until the edge of the tape barely touches the lower part of TAKE UP TAPE GUIDE without any curl or wrinkle.
3) Once the ⓐ screw is adjusted, A/C HEAD height and azimuth adjustment is required. (Refer to 5-3. A/C HEAD POSITION ADJUSTMENT)

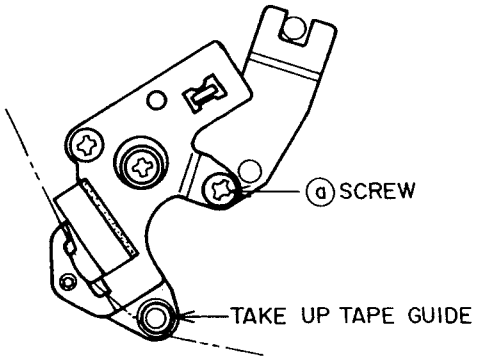


Fig. 5-3

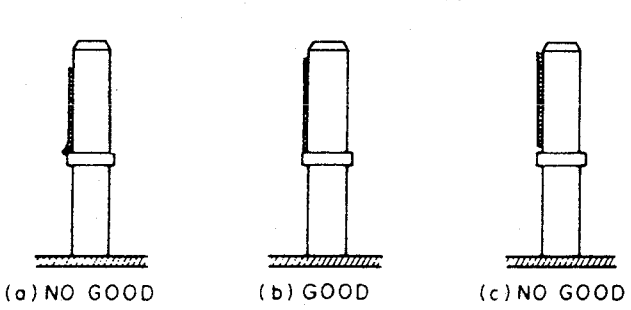
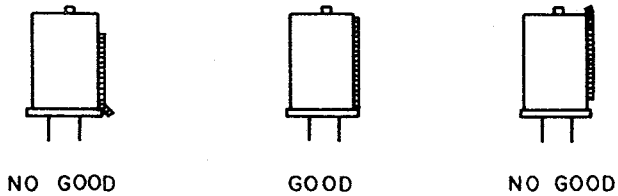


Fig. 5-4

5-2-2. Confirmation of tape curl at the SUPPLY TAPE GUIDE

Confirm that the edge of the tape barely touches the lower part of the SUPPLY TAPE GUIDE without any curl or wrinkle as shown in Fig.5-5.



5-2-3. REVIEW ARM height adjustment

1) Play back the beginning part of an E-240 (T-160) tape and set the unit in the REVIEW mode by pressing the REW button.
(Remove the tape protection cover to make the adjustment easy.)

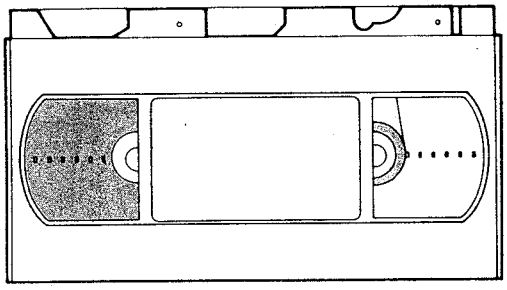


Fig. 5-6

2) Turn the REVIEW ARM height nut ⓐ so that the edge of the tape barely touches the lower part of the TAKE-UP TAPE GUIDE without any curl or wrinkle between the TAKE-UP TAPE GUIDE and the CAPSTAN SHAFT as shown in Fig.5-7 to Fig.5-9.

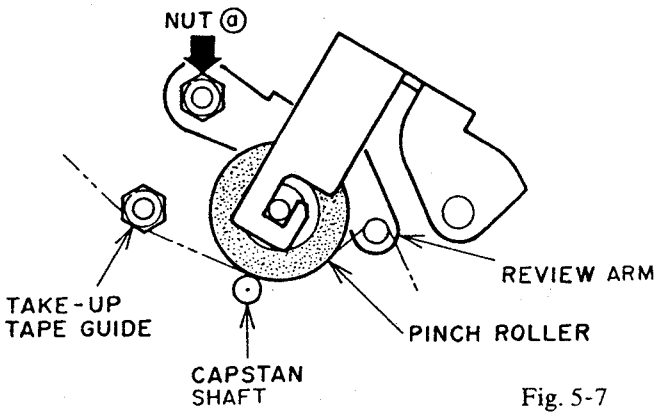


Fig. 5-7

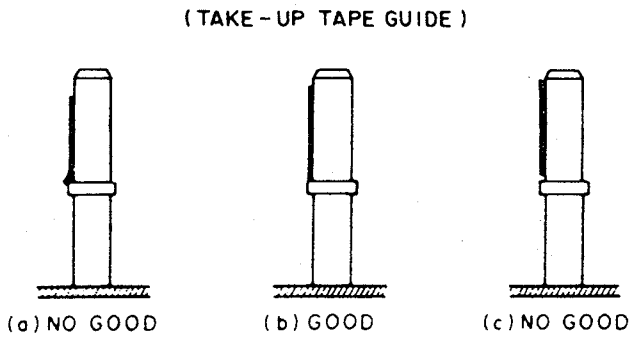


Fig. 5-8

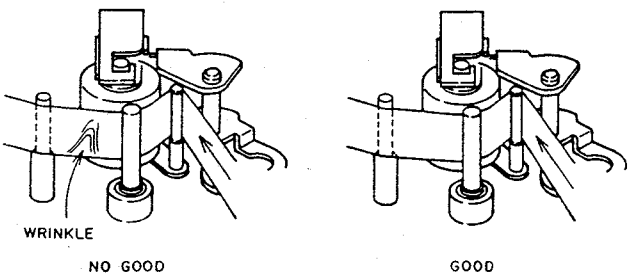


Fig. 5-9

3) Play back the beginning part of an E-240 (T-160) tape and this time set the unit in the CUE mode by pressing the F.FWD button.
4) Confirm that there is no curl or wrinkle at REVIEW ARM's guide.
If a curl or wrinkle of the tape has occurred, slightly turn the ⓐ nut (shown in Fig.5-7) until it disappears.

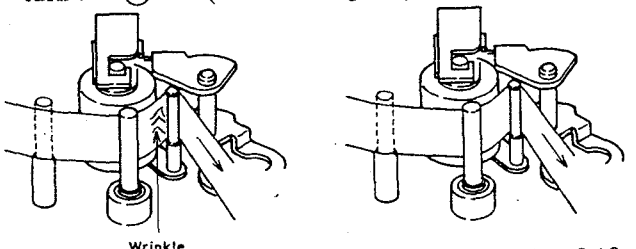


Fig. 5-10

5) Set the unit in REVIEW mode again. Then confirm that there is no curl or wrinkle at the TAKE-UP TAPE GUIDE.
(A small gap may appear after this adjustment, but it is allowable.)

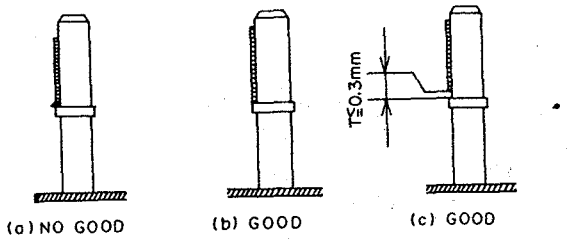


Fig. 5-11

Note
1. If the result is not satisfactory, repeat steps 2) to 5).
2. Always play an undamaged tape to obtain satisfactory adjustment.
3. Since E-240 (T-160) tape can easily be damaged because of its thinness, a pre-adjustment with E-180 (T-120) tape is recommended.

5-2-4. LOADING LEADER height adjustments

1) Slightly loosen the set screw at the lower part of the LOADING LEADERs (L), (R) so that the LOADING LEADER can be adjusted with reasonable tightness. (Refer Fig. 5-12)
2) Play back the reference tape TF-530RFS (AT-751775).
3) Connect an oscilloscope to TP606 (ENVE) on the VIDEO PCB.
4) Turn the LOADING LEADER heads with a flat head (—) screw driver to obtain flat RF envelope as ideal envelope as shown in Fig. 4-13.
5) After the adjustment is completed, tighten the loading leader set screws.

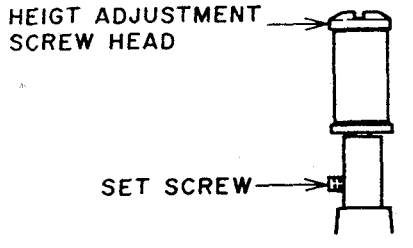


Fig. 5-12

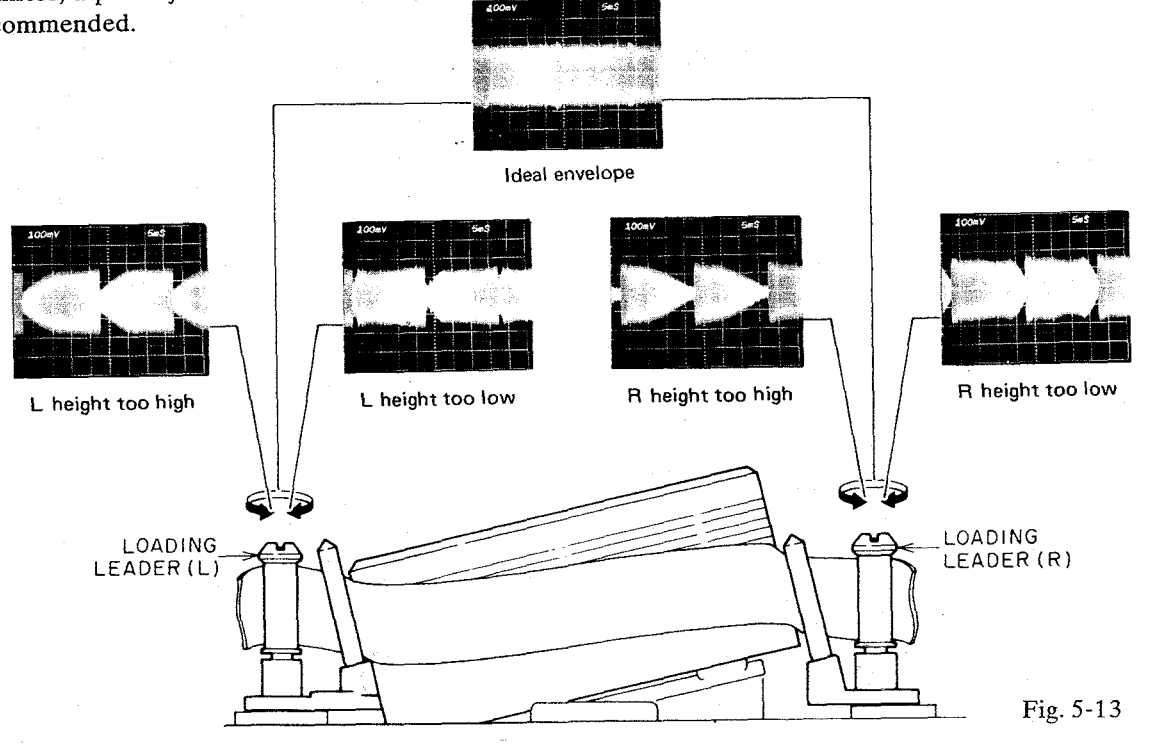


Fig. 5-13

5-3. A/C HEAD POSITION ADJUSTMENT

5-3-1. Azimuth adjustment

1) Connect an AC volt meter or an oscilloscope to the AUDIO OUT terminal on the rear panel.
2) Play back the reference tape TF-530RFS (AT-751775).
3) Adjust the ⓑ screw to obtain the maximum audio output.

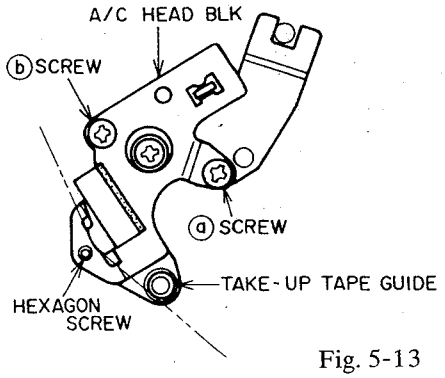


Fig. 5-13

5-3-2. Height adjustment

1) Play back the test tape TF-526HH (AT-751788).
2) Connect an oscilloscope CH-1 to the AUDIO OUT terminal on the rear panel and CH-2 to TP-CTL CHK on the SERVO (A) PCB.
3) Turn the hexagon screw to obtain 1/2 of the output level of either CH-1 or CH-2 whichever has an output signal as shown in Fig.5-14.
4) Slightly turn the ⓐ screw until the tape edge barely touches the lower part of the TAKE UP TAPE GUIDE without any curl or wrinkle as shown in Fig.5-4.
5) Adjust the head azimuth again. (Turning the hexagon screw or ⓐ screw will cause head azimuth mis-alignment. Refer 5-3-1. Azimuth adjustment.)
6) Confirm that both signals of CH-1 and CH-2 are nearly the same level. Repeat the adjustments 3) to 5) if necessary.

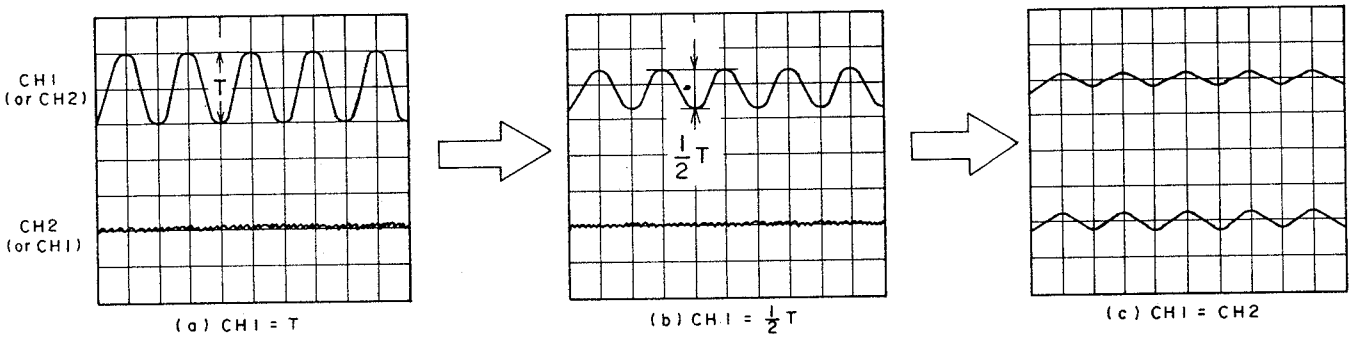


Fig. 5-14

5-3-3. Phase adjustment

1) Connect an oscilloscope to Q202 (emitter) on the CHROMA PCB.
2) Play back the reference tape TF-530RFS (AT-851775).
3) Loosen the ⓒ screw slightly so that the A/C HEAD PLATE can be moved with reasonable tightness.
4) Insert a sharp flat head (—) screwdriver into the A/C HEAD BASE and ⓐ hole as shown in Fig.5-16.
5) Move the A/C HEAD BASE by moving a screwdriver in the direction of the arrow as shown in Fig.5-16 to obtain the maximum RF output, then tighten the ⓒ screw.

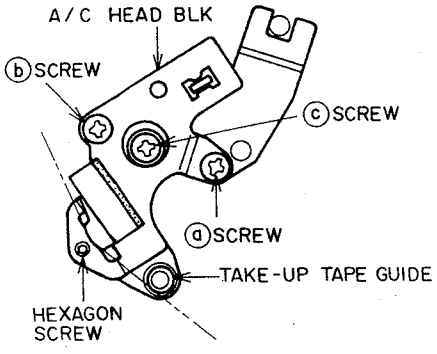


Fig. 4-15

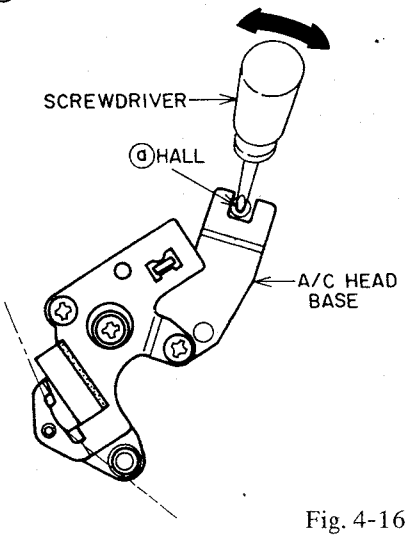


Fig. 4-16

AKAI

DIAGRAMS
AND PC BOARDS

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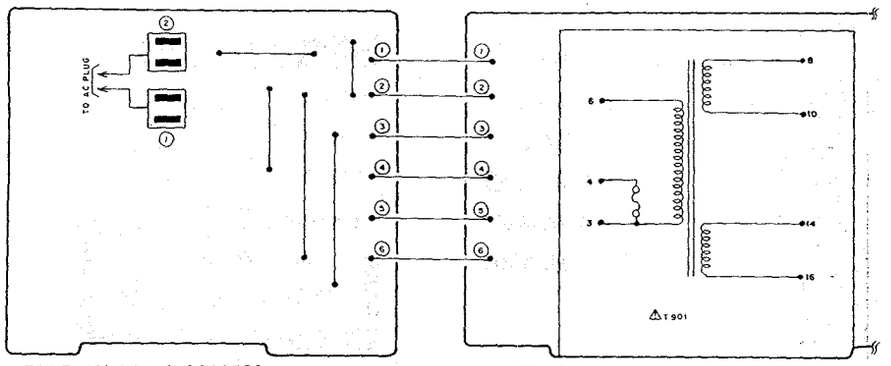
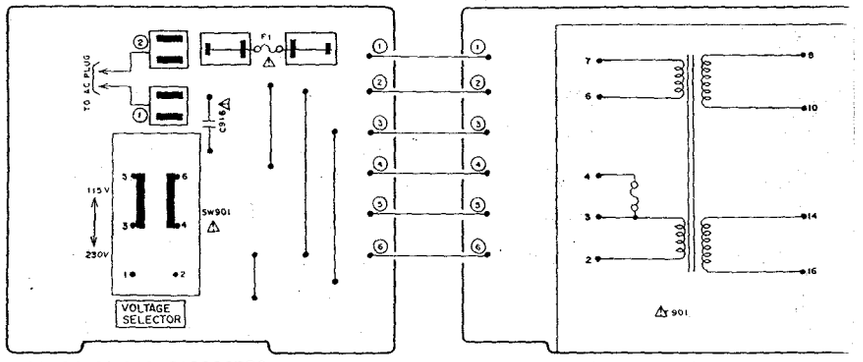


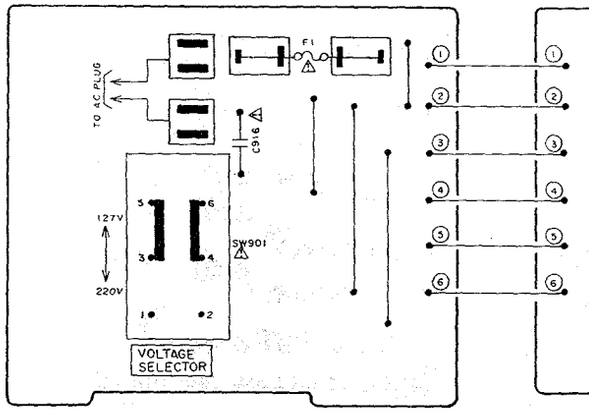
POWER (B) PCB 6A00283B9
EA, EG, EV ([E], [YI]) model

POWER (A) PCB 6A00283B10

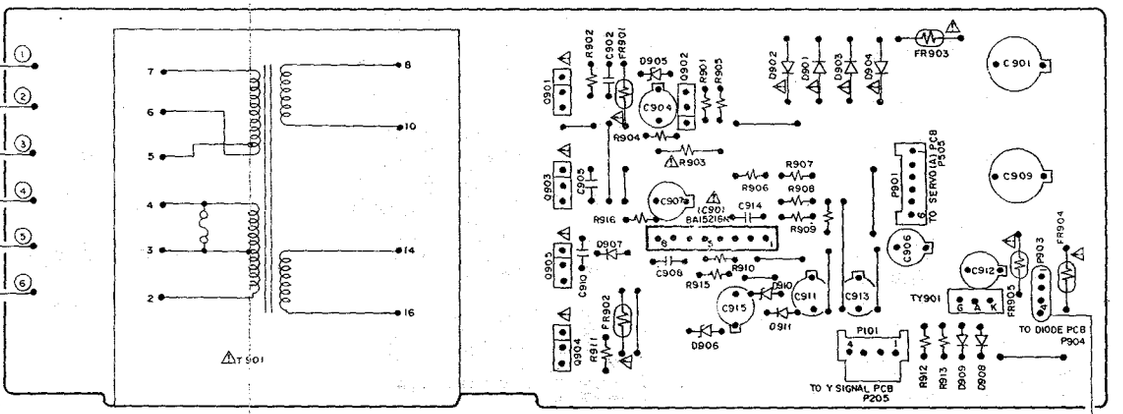


POWER (B) PCB 6A00283B9
EV ([U] model)

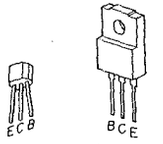
POWER (A) PCB 6A00283B10



POWER (B) PCB 6A00283B9
EV ([Y7] model)



POWER (A) PCB 6A00283B10



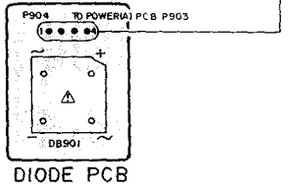
2SC2603 2SD1761
2SD1944

B
= NPN TRANSISTOR

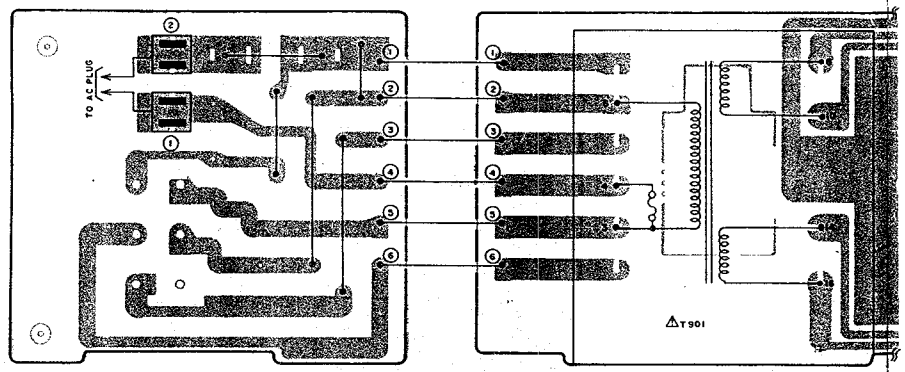
B
= PNP TRANSISTOR

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

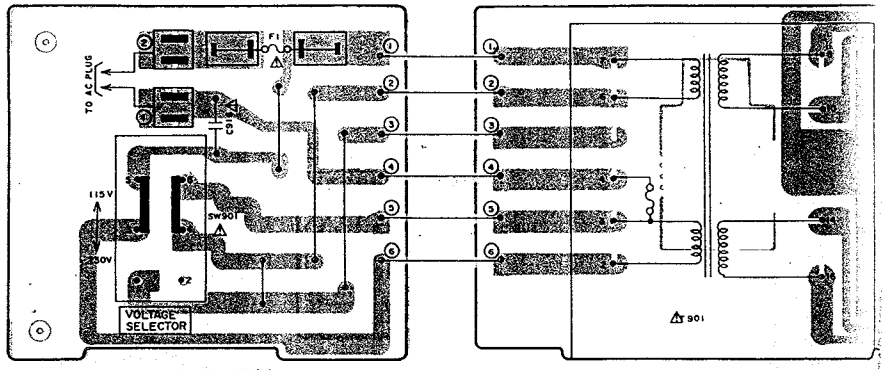


DIODE PCB



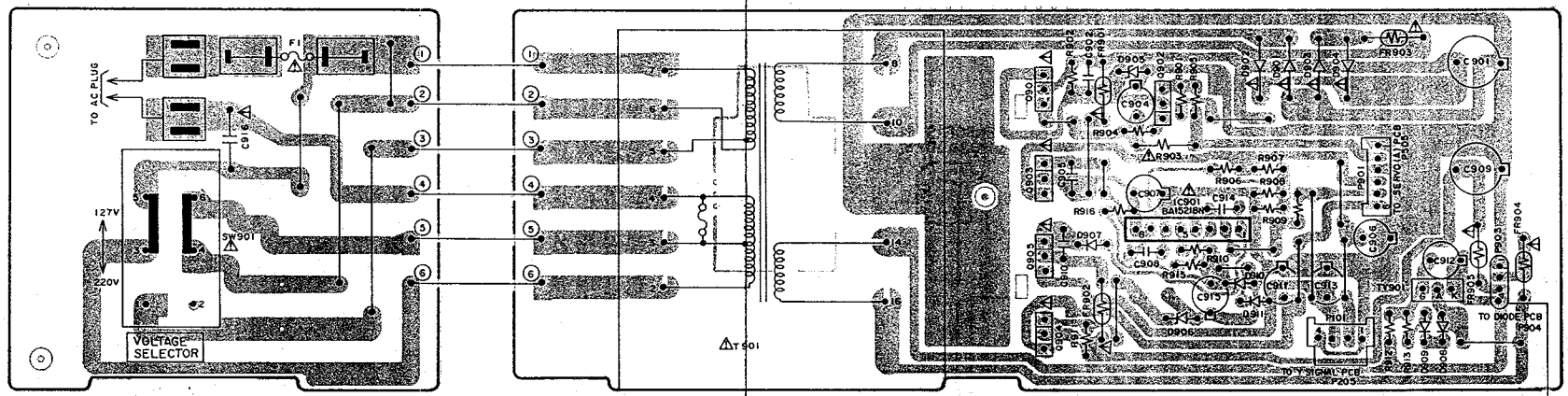
POWER (B) PCB 6A00283B9
EA, EG, EV ([E], [Y1]) model

POWER (A) PCB 6A00283B10



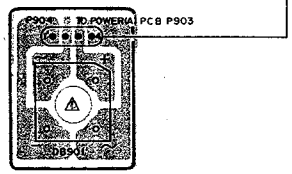
POWER (B) PCB 6A00283B9
EV ([U] model)

POWER (A) PCB 6A00283B10

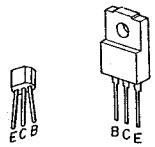


POWER (B) PCB 6A00283B9
EV ([Y7] model)

POWER (A) PCB 6A00283B10



DIODE PCB



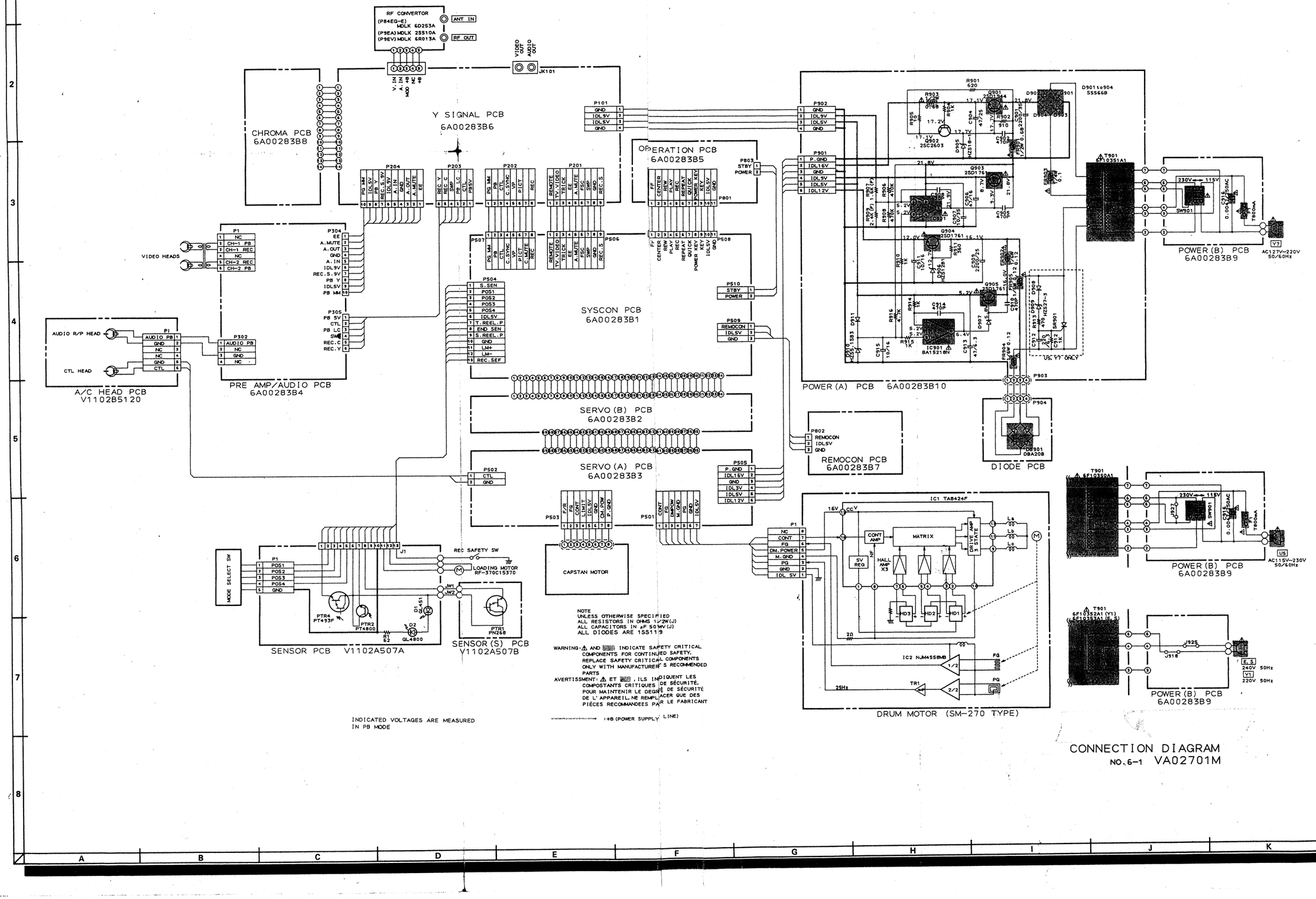
2SC2603 2SD1761 2SD1944

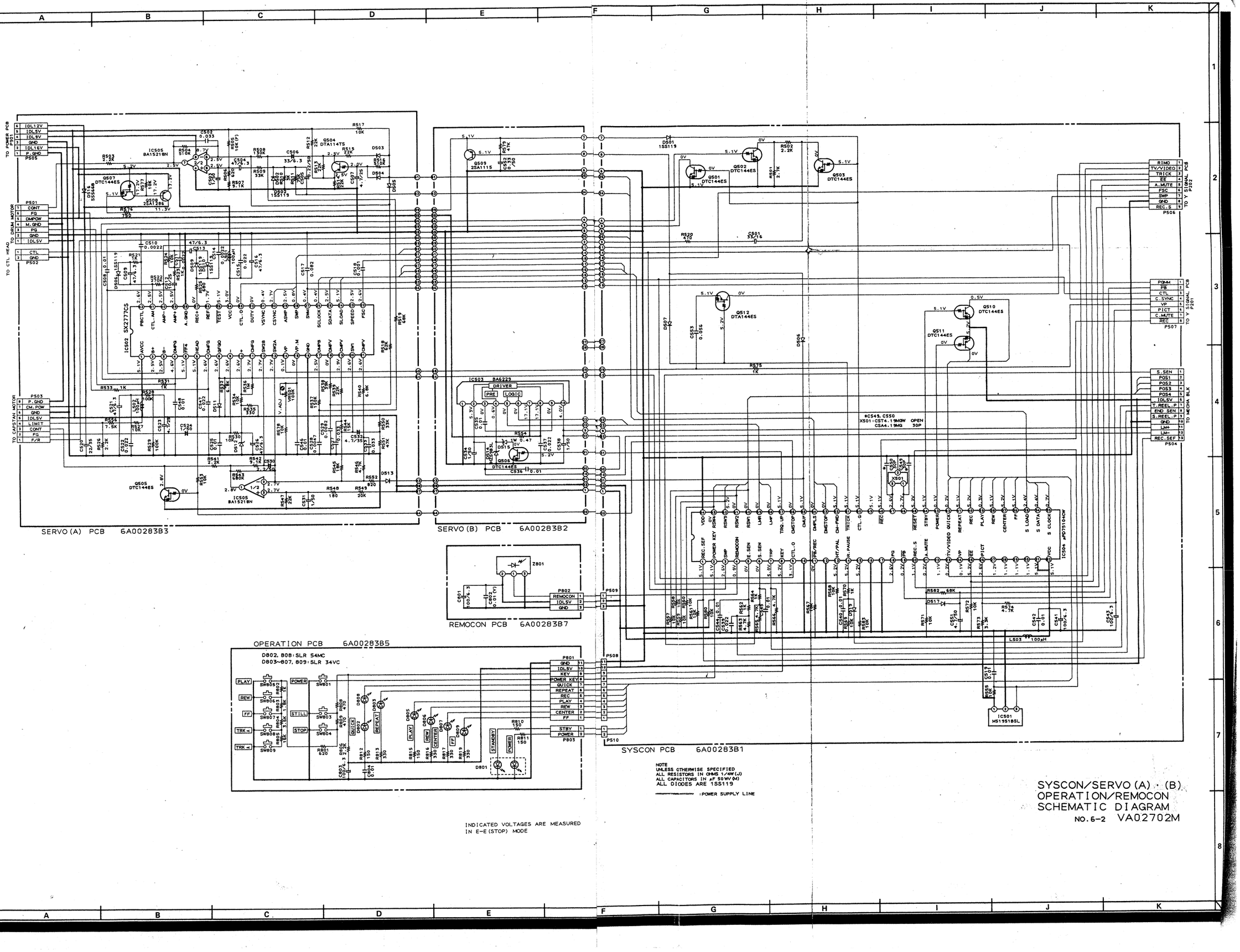
B = NPN TRANSISTOR

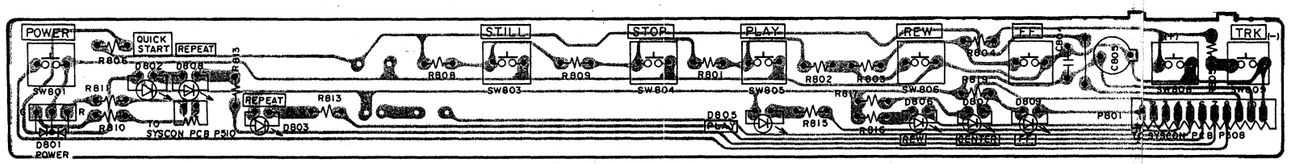
B = PNP TRANSISTOR

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


RF CONVERTOR
(P84EG-E) MDLK 6D253A
(P9EA) MDLK 2S510A
(P9EV) MDLK 6R013A
ANT IN
RF OUT
VIDEO OUT
AUDIO OUT
JK101
V.IN
A.IN Lch
A.IN Rch
GND
CHROMA PCB
6A00283B8
Y SIGNAL PCB
6A00283B6
OPERATION PCB
6A00283B5
SYSCON PCB
6A00283B1
SERVO (B) PCB
6A00283B2
SERVO (A) PCB
6A00283B3
PRE AMP/AUDIO PCB
6A00283B4
A/C HEAD PCB
V1102B5120
VIDEO HEADS
AUDIO R/P HEAD
CTL HEAD
POWER (A) PCB 6A00283B10
REMOCON PCB
6A00283B7
DIODE PCB
D901 to 904
S5566B
POWER (B) PCB
6A00283B9
AC127V~220V
50/60Hz
SENSOR PCB V1102A507A
SENSOR (S) PCB
V1102A507B
MODE SELECT SW
REC SAFETY SW
LOADING MOTOR
RF-370C15370
CAPSTAN MOTOR
DRUM MOTOR (SM-270 TYPE)
IC1 TA8424F
AC115V~230V
50/60Hz
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/2W(J)
ALL CAPACITORS IN μF 50 WV(J)
ALL DIODES ARE 1SS119
WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS
AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L' APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT
INDICATED VOLTAGES ARE MEASURED IN PB MODE
+B (POWER SUPPLY LINE)
CONNECTION DIAGRAM
NO.6-1 VA02701M

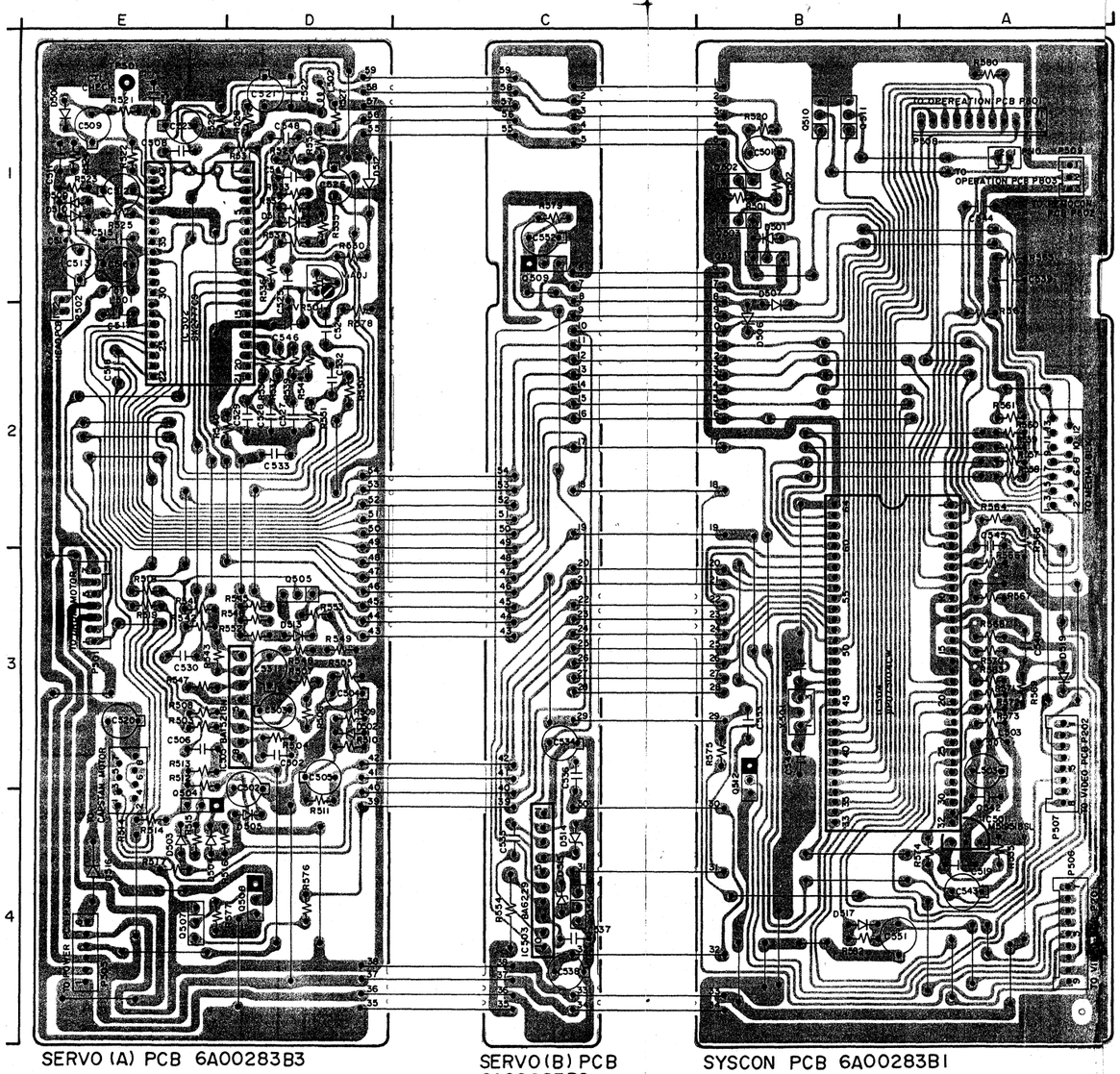

SERVO (A) PCB 6A00283B3
SERVO (B) PCB 6A00283B2
REMOCON PCB 6A00283B7
OPERATION PCB 6A00283B5
SYSCON PCB 6A00283B1
D802, 808 : SLR 54MC
D803~807, 809 : SLR 34VC
INDICATED VOLTAGES ARE MEASURED IN E-E (STOP) MODE
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 50WV (K)
ALL DIODES ARE 1SS119
: POWER SUPPLY LINE
SYSCON/SERVO (A) · (B)
OPERATION/REMOCON
SCHEMATIC DIAGRAM
NO. 6-2 VA02702M



OPERATION PCB 6A00283B5

B
= NPN TRANSISTOR

B
= PNP TRANSISTOR



LOCATION OF COMPONENTS

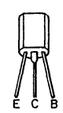
ICS
IC501.....A4
IC502.....E1,2
IC503.....C4
IC504.....A,B3
IC505.....D3

TRANSISTORS
Q501.....B1
Q502.....B1
Q503.....B1
Q504.....E4
Q505.....D3
Q506.....C4
Q507.....E4
Q508.....D3
Q509.....C1
Q510.....B1
Q511.....B1
Q512.....B3

CONNECTORS
P501.....E3
P502.....E1,2
P503.....E3,4
P504.....A2
P505.....E4
P506.....A4
P507.....A3
P508.....A1
P509.....A1
P510.....A1

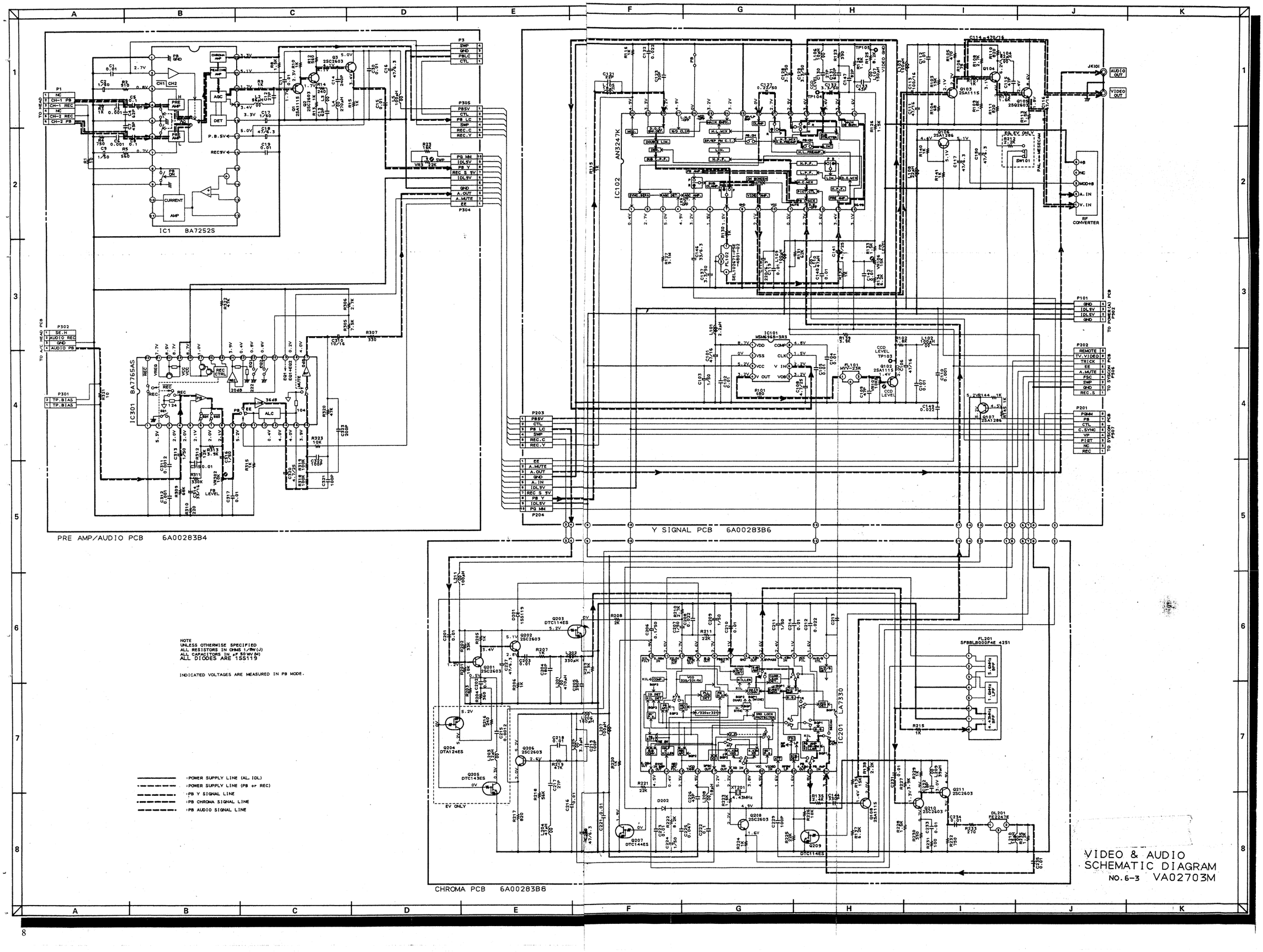
B
= NPN TRANSISTOR

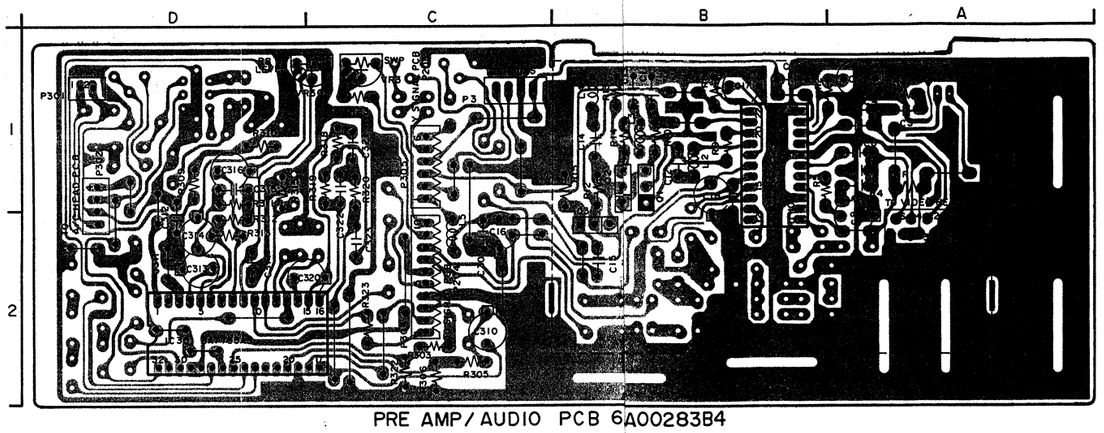
B
= PNP TRANSISTOR



2SA1286

DTA114TS
DTA144ES
DTC144ES


PRE AMP/AUDIO PCB 6A00283B4
Y SIGNAL PCB 6A00283B6
CHROMA PCB 6A00283B8
IC1 BA7252S
IC301 BA7765AS
IC102 AN3247K
IC101 M34E368-3R3
IC201 LA7330
P1
P3
P305
P304
P302
P301
P203
P204
P101
P202
P201
JK101
AUDIO OUT
VIDEO OUT
RF CONVERTER
TO HEAD
TO A/C HEAD PCB
TO P302 (A)
TO SYSCON PCB P506
TO SYSCON PCB P501
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W(J)
ALL CAPACITORS IN +F 50 WV (V)
ALL DIODES ARE 1SS119
INDICATED VOLTAGES ARE MEASURED IN PB MODE.
EV ONLY
:POWER SUPPLY LINE (AL, IDL)
:POWER SUPPLY LINE (PB or REC)
:PB Y SIGNAL LINE
:PB CHROMA SIGNAL LINE
:PB AUDIO SIGNAL LINE
VIDEO & AUDIO
SCHEMATIC DIAGRAM
NO. 6-3 VA02703M



PRE AMP/AUDIO PCB 6A00283B4

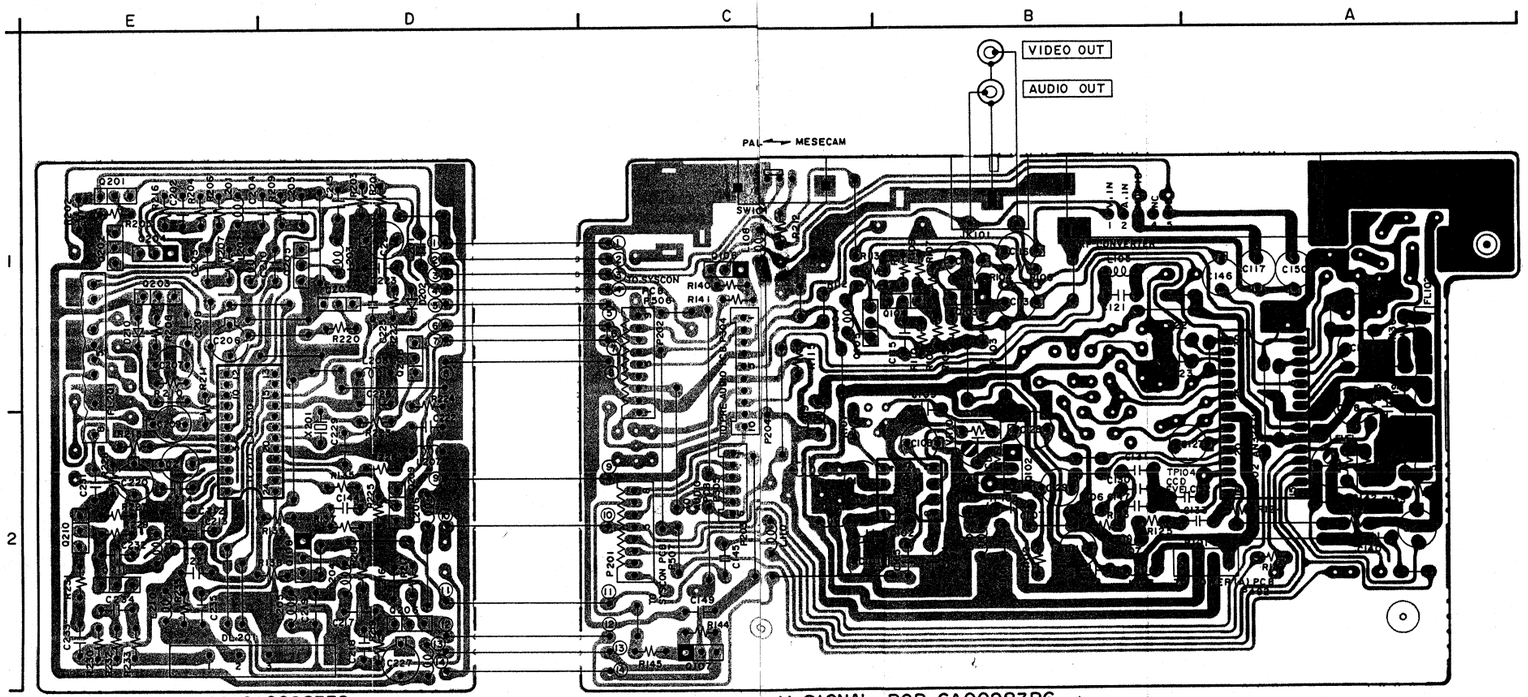
LOCATION OF COMPONENTS

ICS
IC1.....B1,2
IC301.....C,D2

TRANSISTORS
Q1.....B1
Q2.....B1
Q3.....B2

CONNECTORS
P1.....A2
P3.....C1
P302.....D1,2
P304.....C2
P305.....C1

2SA1115
2SC2603

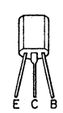


CHROMA PCB 6A00283B8

Y SIGNAL PCB 6A00283B6

B = NPN TRANSISTOR

B = PNP TRANSISTOR



2SA1286

2SA1115
2SC2603

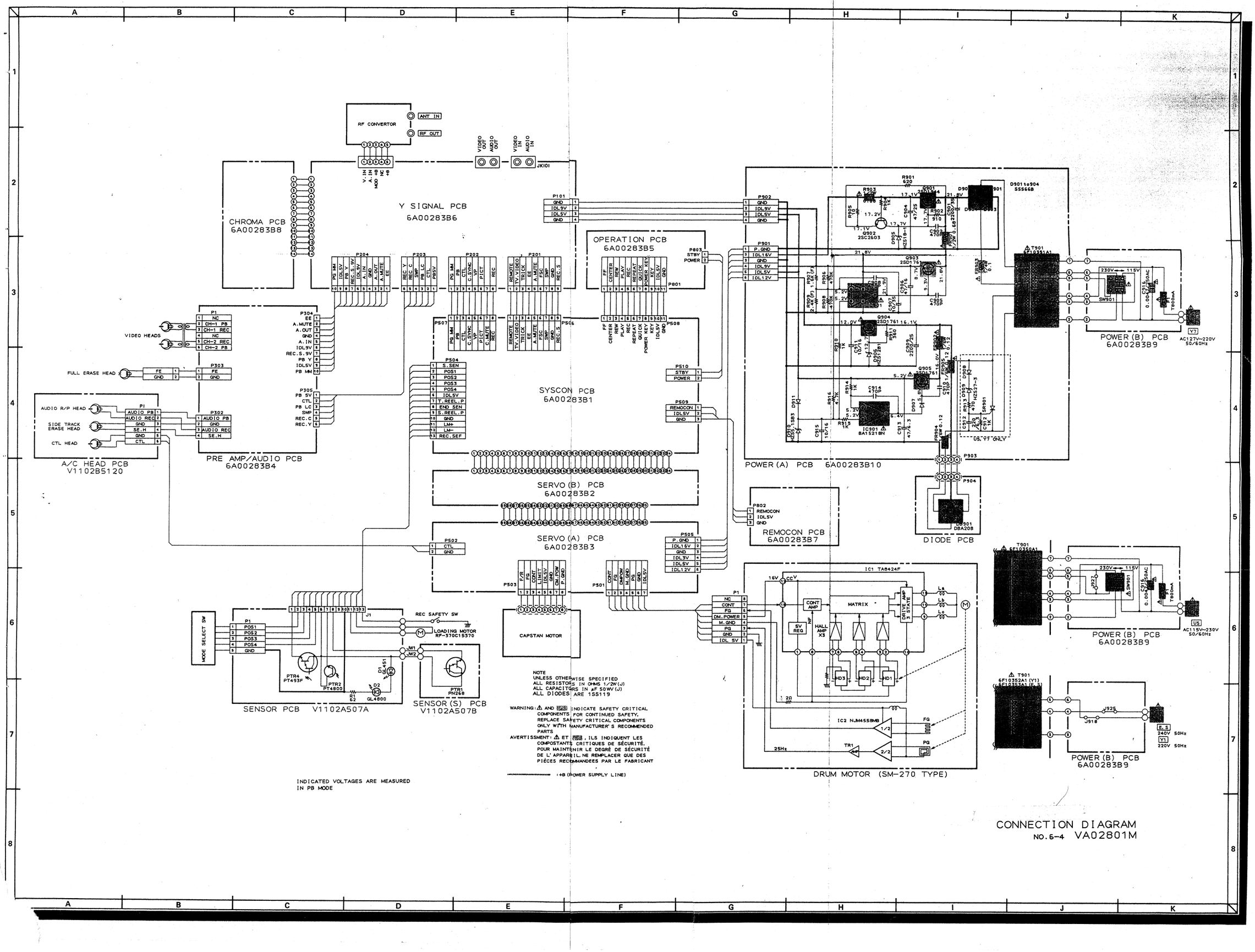
DTA124ES
DTC114ES
DTA143ES
DTA144ES

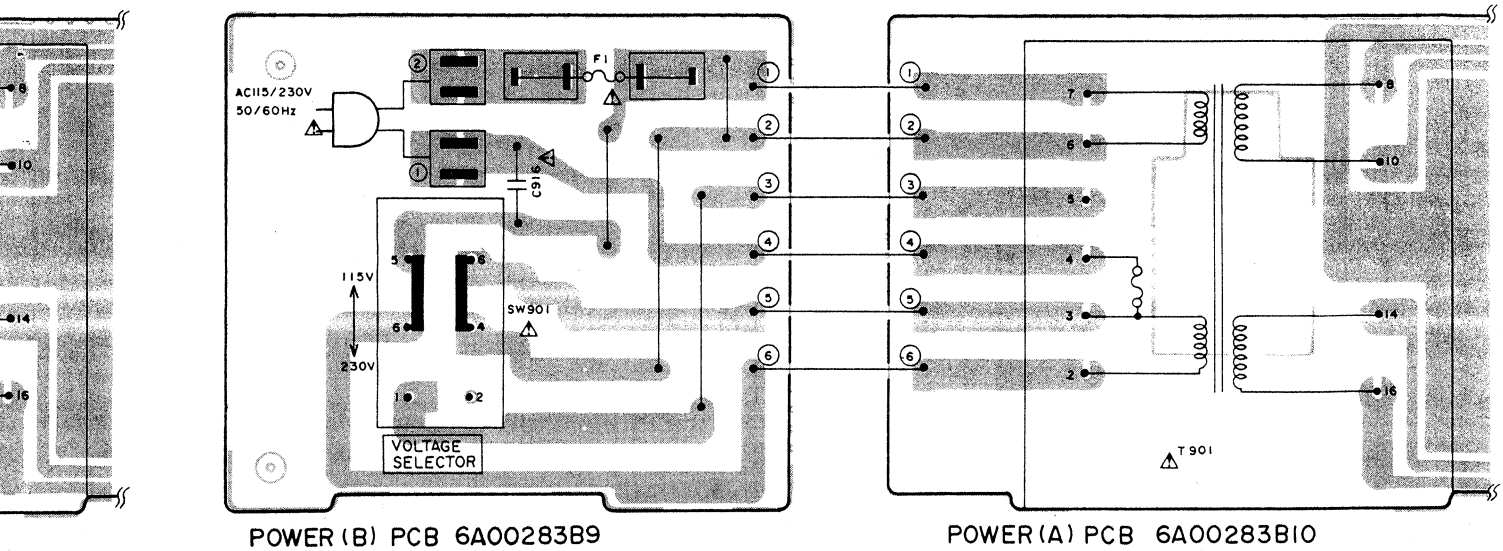
LOCATION OF COMPONENTS

ICS
IC101.....B2
IC102.....A1,2
IC201.....E1,2

CONNECTORS
P101.....A,B2
P201.....C2
P202.....C1
P203.....C2
P204.....C1,2

TRANSISTORS
Q102.....B2
Q103.....B1
Q104.....B1
Q105.....C1
Q106.....C1
Q107.....C2
Q108.....D2
Q201.....E1
Q202.....E1
Q203.....E1
Q204.....E1
Q205.....D1
Q206.....D2
Q207.....D1
Q208.....D1
Q209.....D2
Q210.....E2
Q211.....E2

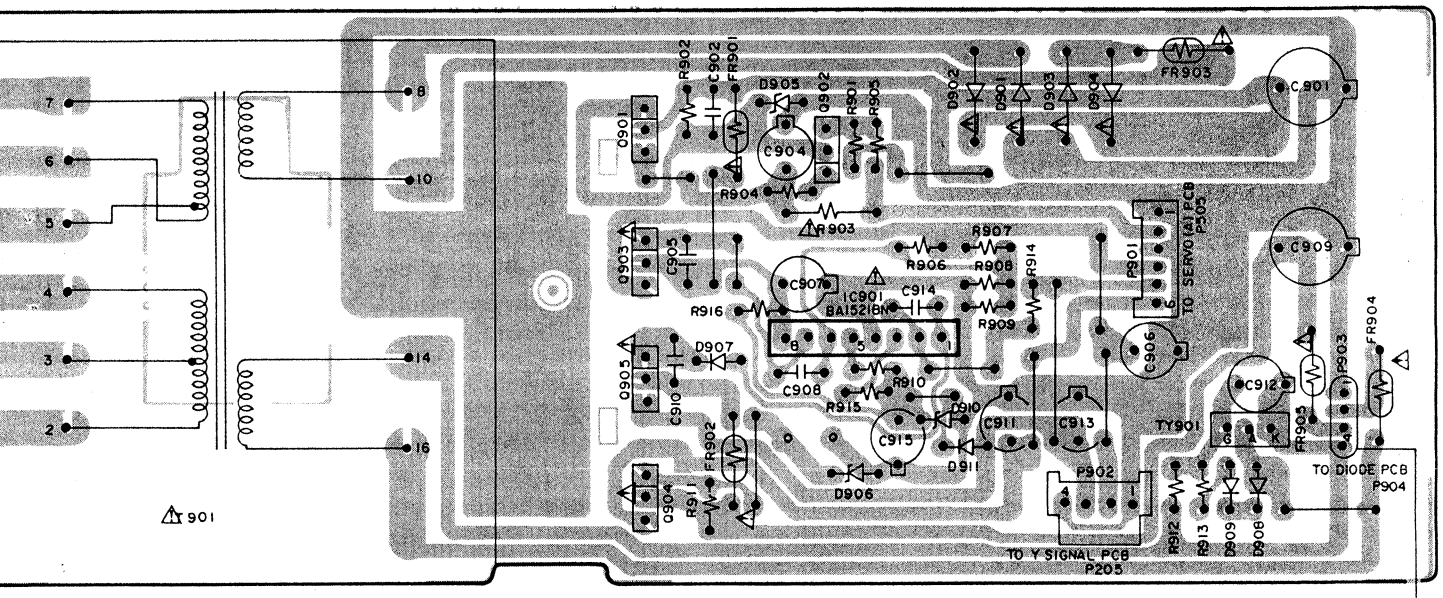

RF CONVERTOR
ANT IN
RF OUT
JK101
CHROMA PCB
6A00283B8
Y SIGNAL PCB
6A00283B6
OPERATION PCB
6A00283B5
SYSCON PCB
6A00283B1
PRE AMP/AUDIO PCB
6A00283B4
A/C HEAD PCB
V1102B5120
VIDEO HEADS
FULL ERASE HEAD
AUDIO R/P HEAD
SIDE TRACK ERASE HEAD
CTL HEAD
SERVO(B) PCB
6A00283B2
SERVO(A) PCB
6A00283B3
CAPSTAN MOTOR
SENSOR PCB V1102A507A
SENSOR(S) PCB
V1102A507B
REC SAFETY SW
LOADING MOTOR
RF-370C15370
MODE SELECT SW
REMOCON PCB
6A00283B7
POWER(A) PCB 6A00283B10
POWER(B) PCB
6A00283B9
DIODE PCB
DRUM MOTOR (SM-270 TYPE)
IC1 TA8424F
IC2 NJM4558MB
IC901 BA1521BN
T901 6F10350A01
T901 6F10352A01 (Y1)
6F10353A01 (E,S)
D901 to 904 SS566B
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/2W(J)
ALL CAPACITORS IN μF 50WV(J)
ALL DIODES ARE 1SS119
WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS
AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT
+B (POWER SUPPLY LINE)
INDICATED VOLTAGES ARE MEASURED IN PB MODE
CONNECTION DIAGRAM
NO.6-4 VA02801M



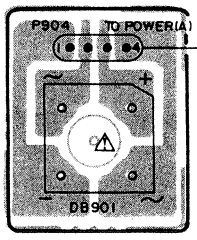
POWER (B) PCB 6A00283B9

EV (U5)

POWER (A) PCB 6A00283B10



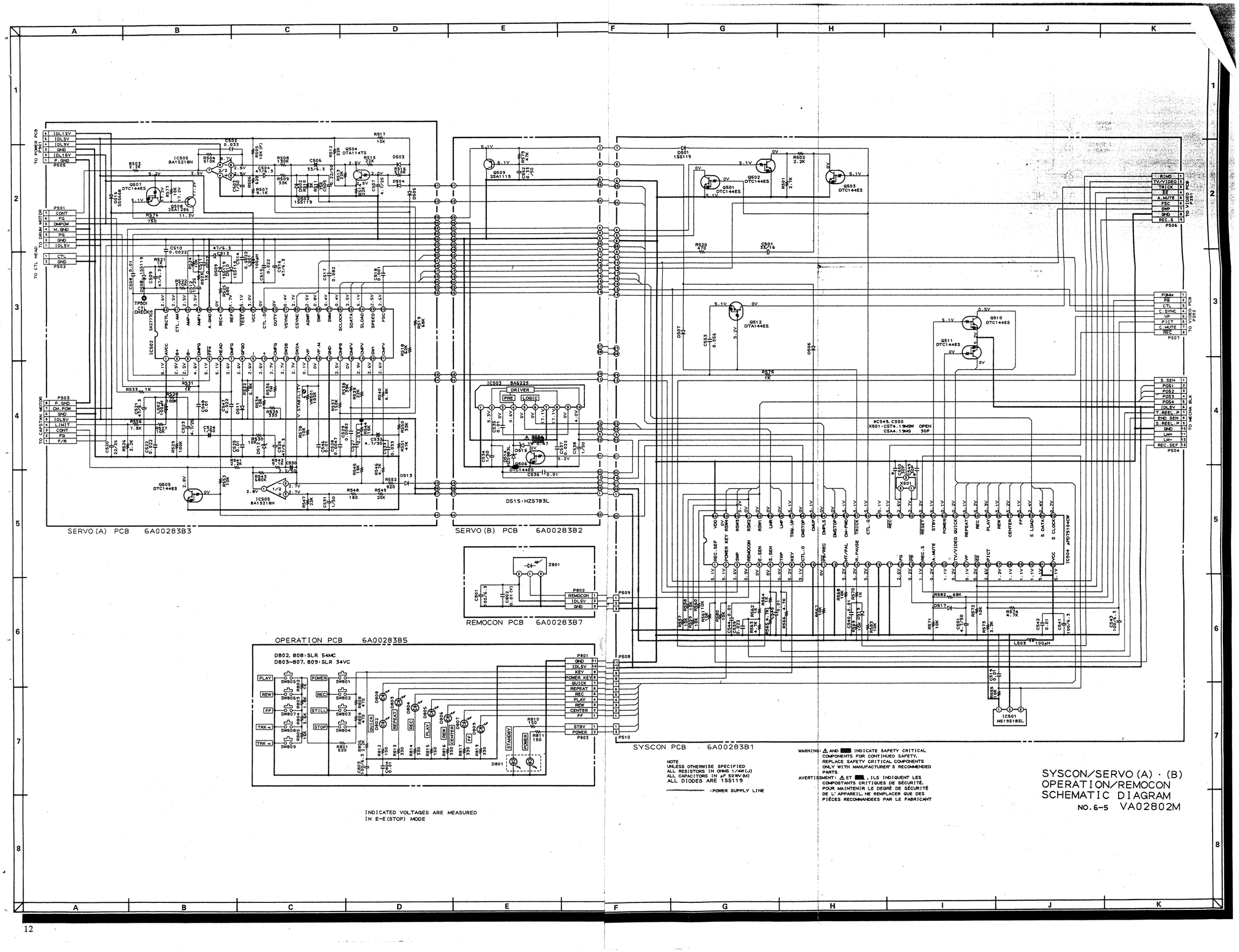
POWER (A) PCB 6A00283B10



DIODE PCB

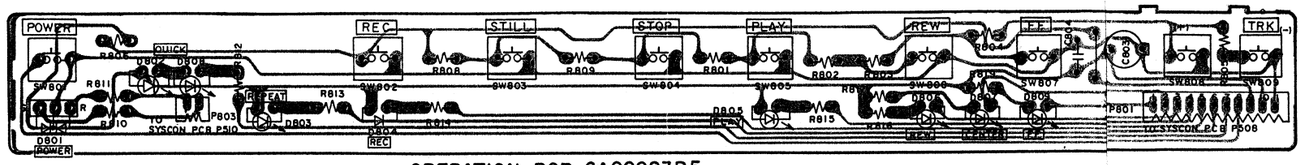
△INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY,
EPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
ECOMMENDED PARTS

MENT: △IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
OUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
E REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT



SYSCON/SERVO (A) · (B) OPERATION/REMOCON SCHEMATIC DIAGRAM

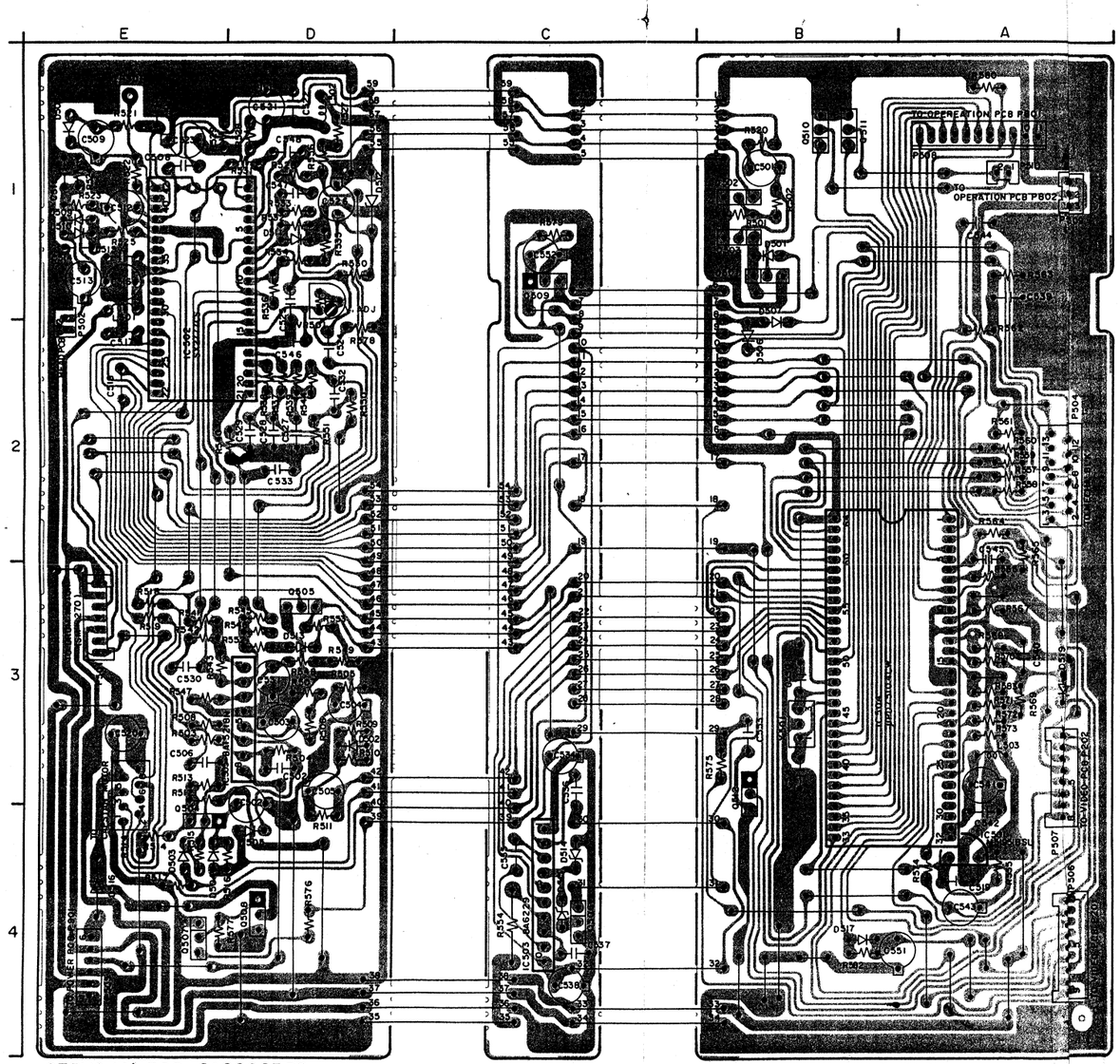
NO. 6-5 VA02802M



OPERATION PCB 6A00283B5

B
= NPN TRANSISTOR

B
= PNP TRANSISTOR



SERVO (A) PCB 6A00283B3

SERVO (B) PCB 6A00283B2

SYSCON PCB 6A00283B1

LOCATION OF COMPONENTS

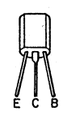
ICS
IC501.....A4
IC502.....E1,2
IC503.....C4
IC504.....A,B3
IC505.....D3

TRANSISTORS
Q501.....B1
Q502.....B1
Q503.....B1
Q504.....E4
Q505.....D3
Q506.....C4
Q507.....E4
Q508.....D3
Q509.....C1
Q510.....B1
Q511.....B1
Q512.....B3

CONNECTORS
P501.....E3
P502.....E1,2
P503.....E3,4
P504.....A2
P505.....E4
P506.....A4
P507.....A3
P508.....A1
P509.....A1
P510.....A1

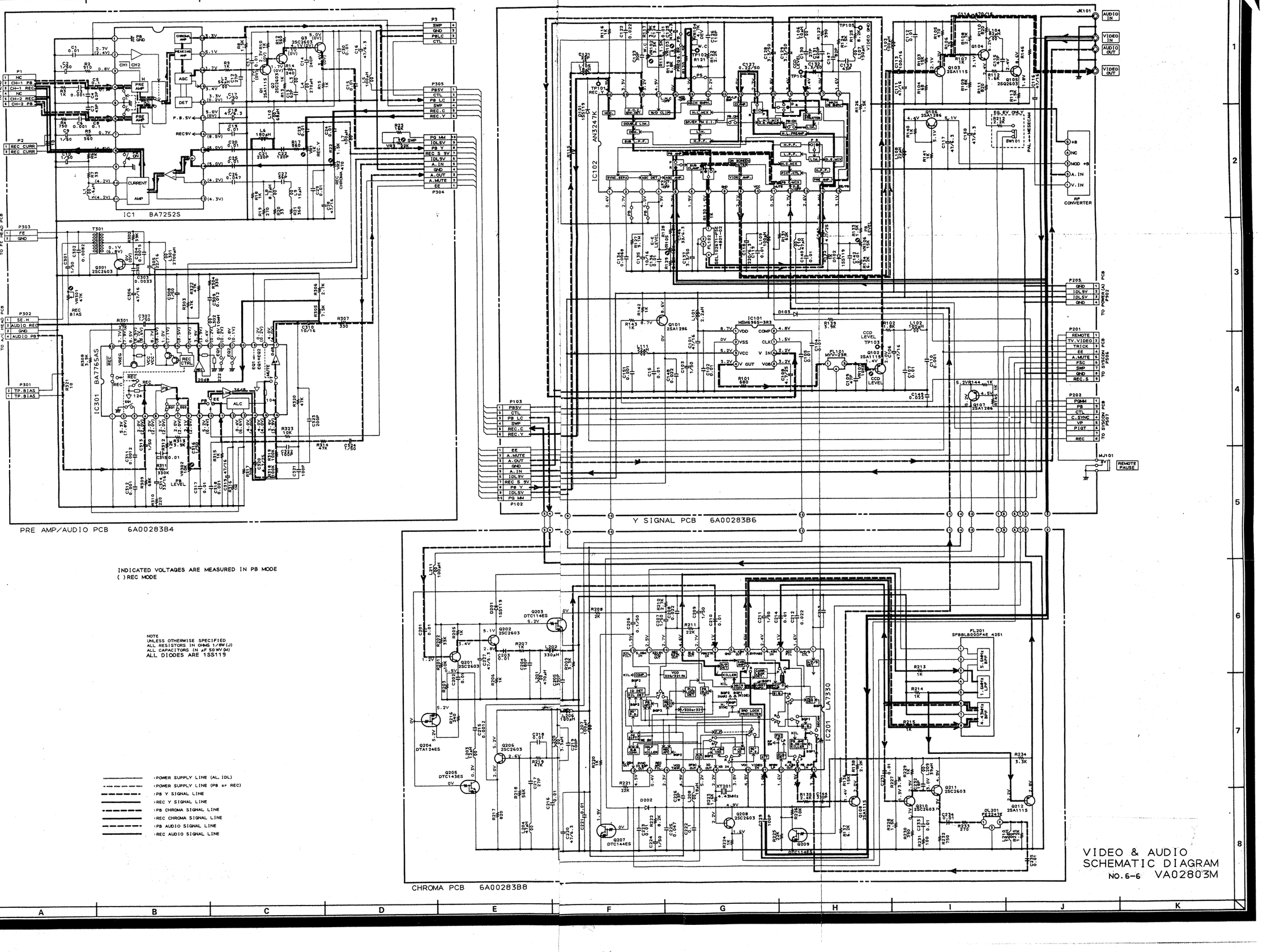
B
= NPN TRANSISTOR

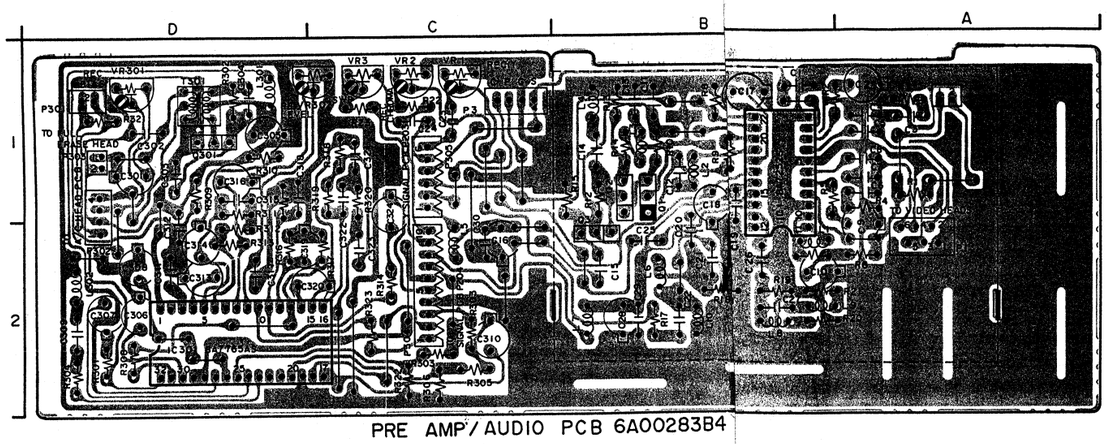
B
= PNP TRANSISTOR



2SA1286

2SA1115
DTA114
DTA144
DTC144


PRE AMP/AUDIO PCB 6A00283B4
Y SIGNAL PCB 6A00283B6
CHROMA PCB 6A00283B8
IC1 BA7252S
IC301 BA7765AS
IC102 AN3247K
IC101 MSM6565-3R3
IC201 LA7330
INDICATED VOLTAGES ARE MEASURED IN PB MODE
( )REC MODE
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W(J)
ALL CAPACITORS IN µF 50WV(M)
ALL DIODES ARE 1SS119
:POWER SUPPLY LINE (AL, IDL)
:POWER SUPPLY LINE (PB or REC)
:PB Y SIGNAL LINE
:REC Y SIGNAL LINE
:PB CHROMA SIGNAL LINE
:REC CHROMA SIGNAL LINE
:PB AUDIO SIGNAL LINE
:REC AUDIO SIGNAL LINE
VIDEO & AUDIO
SCHEMATIC DIAGRAM
NO.6-6 VA02803M



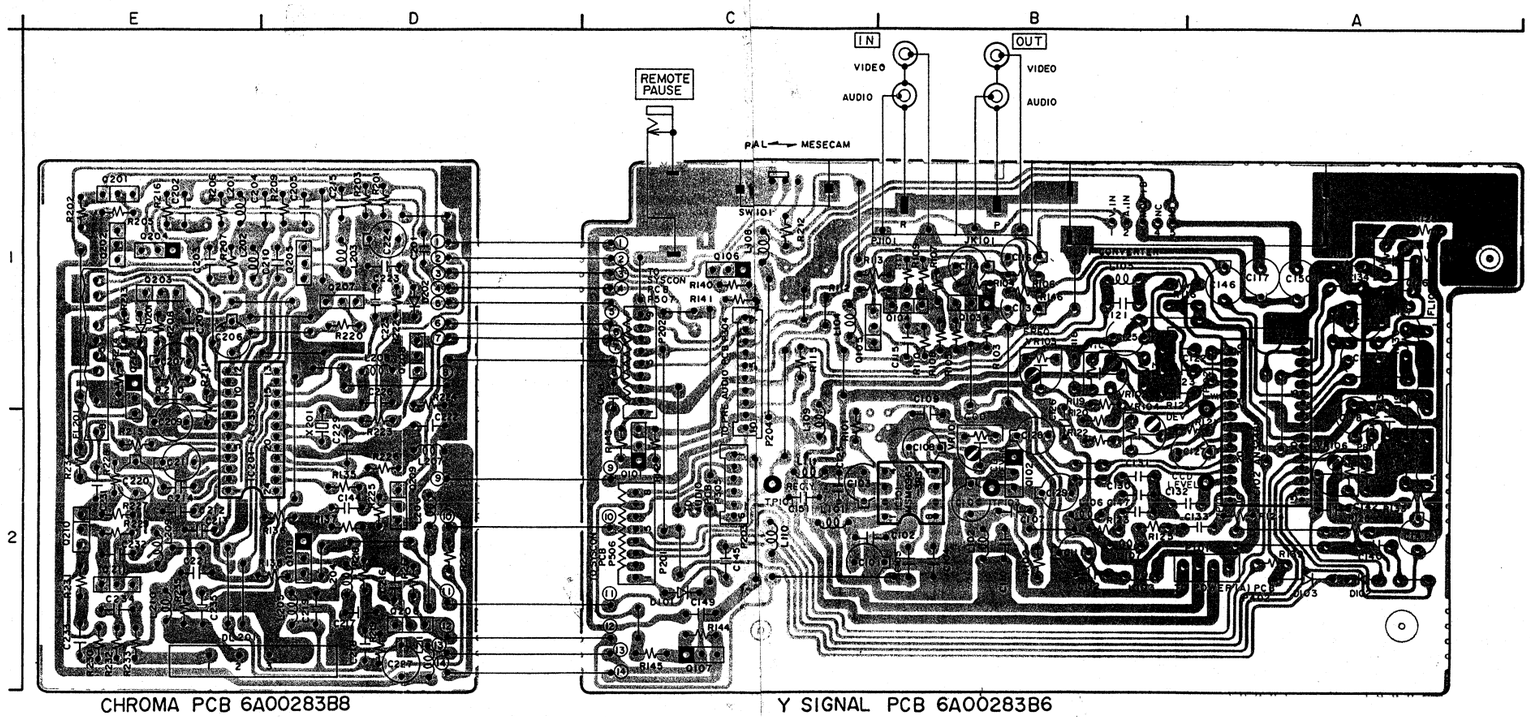
PRE AMP/AUDIO PCB 6A00283B4

LOCATION OF COMPONENTS
ICS
IC1.....B1
IC301.....C,D2

TRANSISTORS
Q1.....B1
Q2.....B1
Q3.....B1
Q301.....D1

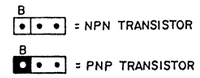
CONNECTORS
P1.....A1,2
P2.....A1
P3.....C1
P301.....D1
P302.....D1
P302.....D1
P304.....C1,2
P035.....C1

2SA1115
2SC2603



CHROMA PCB 6A00283B8

Y SIGNAL PCB 6A00283B6



2SA1115
2SC2603
DTA124
DTC114
DTC143

LOCATION OF COMPONENTS
ICS
IC101.....C2
IC102.....A,B1,2
IC201.....E,F1,2

CONNECTORS
P101.....B2
P201.....D2
P202.....D1
P203.....D2
P204.....D1

TRANSISTORS
Q101.....D2
Q102.....B2
Q103.....C1
Q104.....C1
Q105.....C1
Q106.....D1
Q107.....D2
Q108.....E2
Q201.....F1
Q202.....F1
Q203.....F1
Q204.....F1
Q205.....E1
Q206.....E2
Q207.....E1
Q208.....E1
Q209.....E2
Q210.....F2
Q211.....F2
Q212.....F1

SERVO/SYSCON BLOCK DIAGRAM NO.2-1 VA02751M

PB CTL SIGNAL

REC CTL SIGNAL

SWITCHING PULSE

CAPSTAN MOTOR

DRUM MOTOR (SM-270 TYPE)

SERVO (A) PCB

SYSCON PCB 6A00283B1

IC504 SYSCON MI-COM APD75104CW

IC502 SX27775 (DIGITAL SERVO)

CM CONT OUT

DM CONT OUT

DM PG IN

DM FG IN f=599.79Hz

CM FG AMP OUT

CM FG IN f=504.45Hz

DM PHASE ERROR PULSE

DM SPEED ERROR PULSE

CM PHASE ERROR PULSE

CM SPEED ERROR PULSE

fsc IN f=4.433MHz

V PULSE (PB PAUSE)

BUASI-V PULSE (PB PAUSE)

:CAPSTAN MOTOR SPEED
:CAPSTAN MOTOR PHASE
:DRUM MOTOR SPEED
:DRUM MOTOR PHASE

VIDEO & AUDIO BLOCK DIAGRAM NO.2-2 VA02752M

C-SYNC IN (H-RATE)
C-SYNC IN (V-RATE)
REC/EE VIDEO OUT
PB VIDEO OUT
VIDEO IN (REC)
VIDEO IN (PB)
PB FM IN
MAIN EMPHA OUT (WHITE CLIP)
SW OUT (REC/EE)
SW OUT (PB)
CCD OUT (PB)

REC CHROMA IN
REC FM SIGNAL IN
REC SIGNAL OUT
OSC OUT

CCD IN (PB)
CCD FILTER OUT (PB)
MAIN DE EMPHA OUT
LPF OUT (REC)
LPF OUT (PB)
2fsc (8.867MHz)
LPF IN (REC)
LPF IN (PB) (DEM OUT)
REC/PB SUB CONV OUT

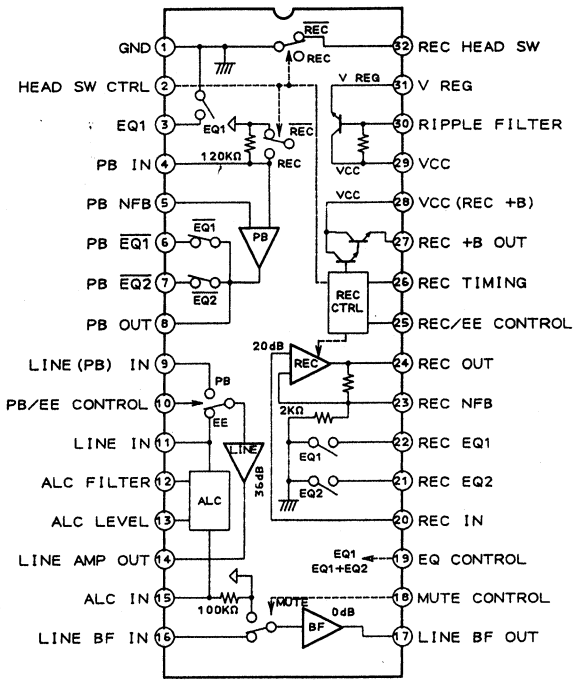
fsc IN (4.433MHz)
PB COMB FILTER OUT
PB CHROMA OUT
REC CHROMA IN
REC HIGH CHROMA IN
REC 4.43MHz OUT
PB 4.43MHz OUT
PB LOW CHROMA IN
REC LOW CHROMA OUT
REC/PB SUB CONV IN

IC1 BA7252S
IC101 MSM9655-35RS
IC102 AN3247K
IC201 BA7765AS
IC701 LA7350
FL101 3.3M±s LPF
FL102 3.4M±s LPF
FL201 (1/3) 5.06MHz BPF
FL201 (2/3) 1.6MHz LPF
FL201 (3/3) 4.43MHz BPF
DL201 COMB FILTER
XT201 4.433604Hz
Q101 Q102 Q103 Q104 Q105 Q106 Q108 Q201 Q202 Q203 Q204 Q205 Q206 Q208 Q210 Q211 Q212
TR303
IC301 BA7765AS
RF CONVERTOR
SW101
VR1 (REC.Y)
VR2 (REC.CHROMA)
VR103 FREQUENCY
VR104 DEVIATION
VR105 EE LEVEL
VR106 WHITE CLIP
VR107 CCD LEVEL
VR301 BIAS LEVEL
VR302 PB LEVEL
TP3
TP102 WHITE CLIP
TP104 CCD LEVEL
TP601 CCD LEVEL
WP301
WP302

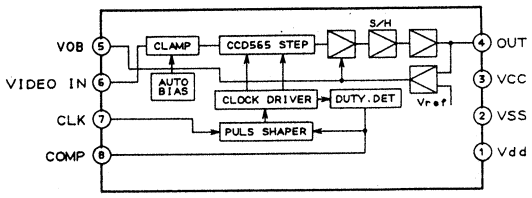
VS-R9EV ONLY
EG,EV ONLY
MESECAM ↔ PAL
TO SYSCON PCB
FROM MAIN PCB
Y SIGNAL PCB
PRE AMP/AUDIO PCB
CHROMA PCB

:PB Y SIGNAL LINE
:REC Y SIGNAL LINE
:PB CHROMA SIGNAL LINE
:REC CHROMA SIGNAL LINE
:PB AUDIO SIGNAL LINE
:REC AUDIO SIGNAL LINE

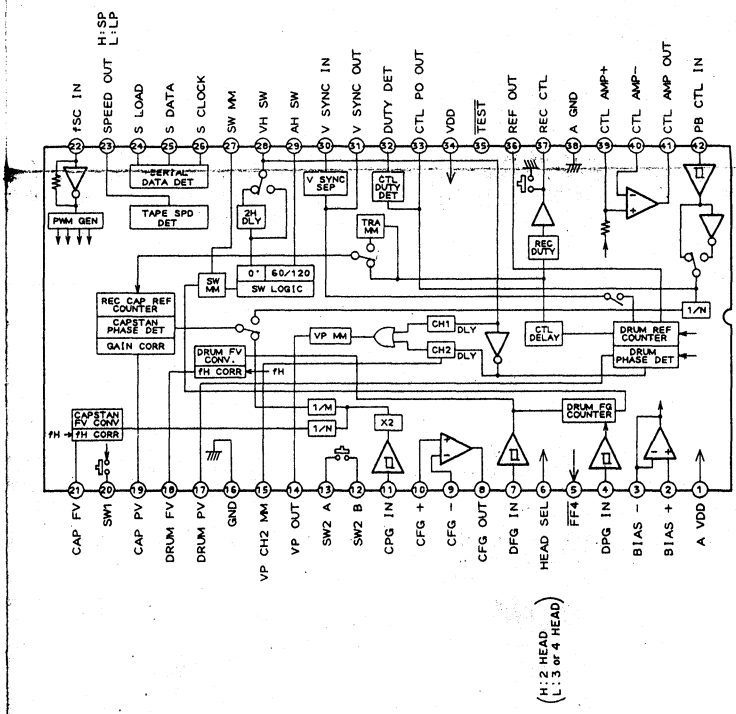
BA7765AS (AUDIO SIGNAL REC/PB AMPLIFIER)



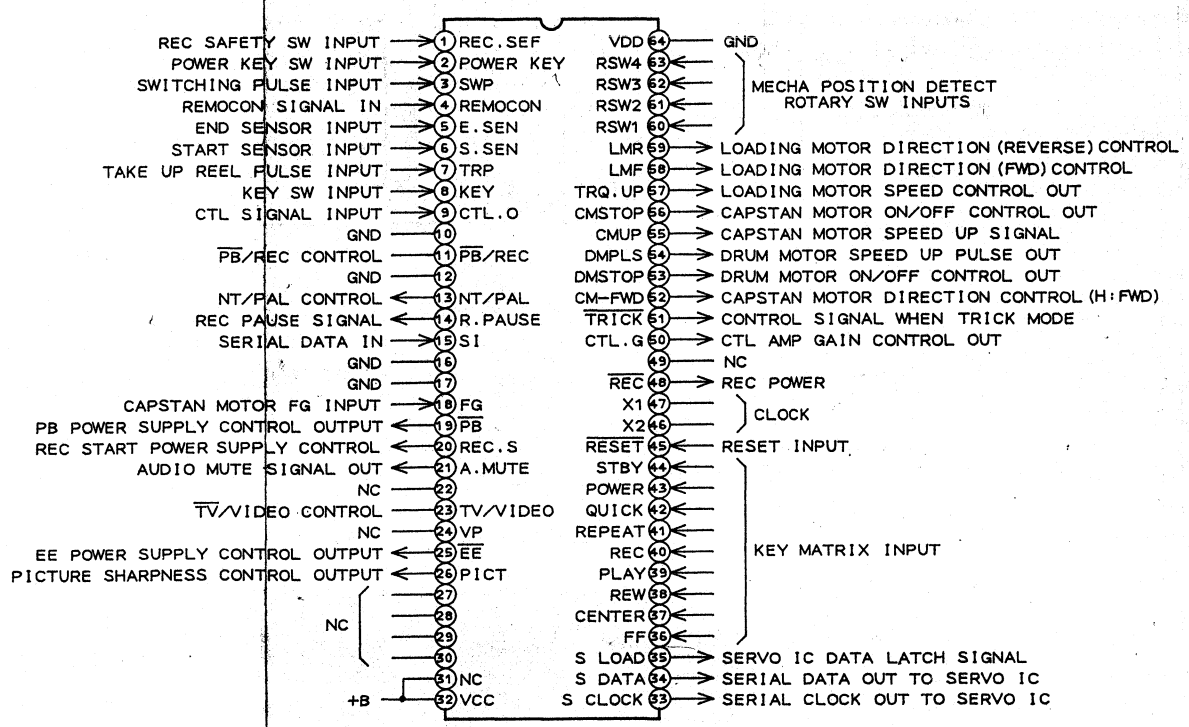
MSM6965-3RS (1H CCD DELAY LINE)

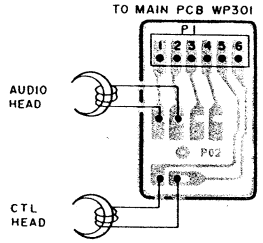


SX2777CS (DIGITAL SERVO)

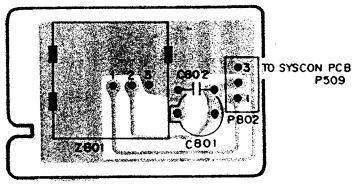


µPD75104CW (SYSCON MI-CON)

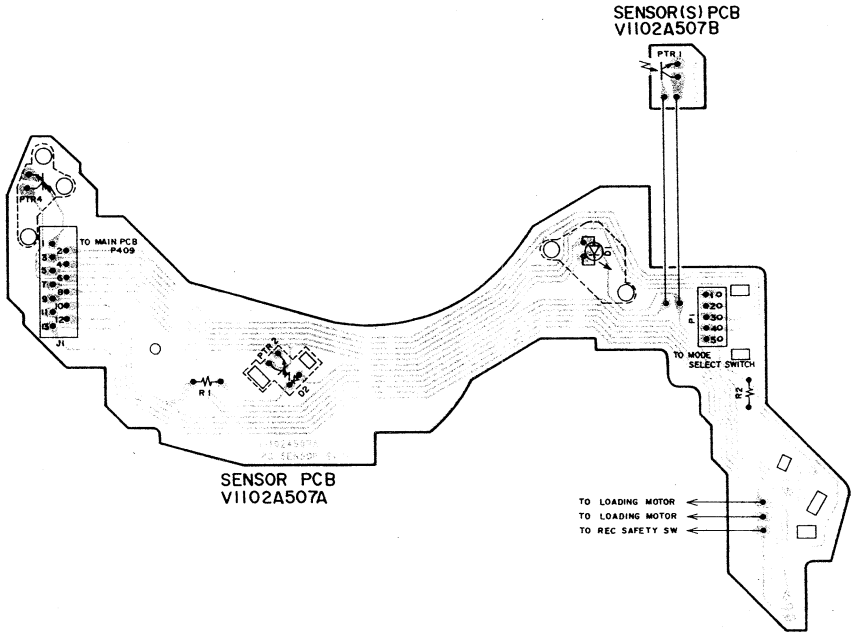

REC SAFETY SW INPUT → 1 REC.SEF
POWER KEY SW INPUT → 2 POWER KEY
SWITCHING PULSE INPUT → 3 SWP
REMOCON SIGNAL IN → 4 REMOCON
END SENSOR INPUT → 5 E.SEN
START SENSOR INPUT → 6 S.SEN
TAKE UP REEL PULSE INPUT → 7 TRP
KEY SW INPUT → 8 KEY
CTL SIGNAL INPUT → 9 CTL.O
GND 10
PB/REC CONTROL → 11 PB/REC
GND 12
NT/PAL CONTROL ← 13 NT/PAL
REC PAUSE SIGNAL ← 14 R.PAUSE
SERIAL DATA IN → 15 SI
GND 16
GND 17
CAPSTAN MOTOR FG INPUT → 18 FG
PB POWER SUPPLY CONTROL OUTPUT ← 19 PB
REC START POWER SUPPLY CONTROL ← 20 REC.S
AUDIO MUTE SIGNAL OUT ← 21 A.MUTE
NC 22
TV/VIDEO CONTROL → 23 TV/VIDEO
NC 24 VP
EE POWER SUPPLY CONTROL OUTPUT ← 25 EE
PICTURE SHARPNESS CONTROL OUTPUT ← 26 PICT
NC 27 28 29 30
31 NC
+B 32 VCC
VDD 64 GND
RSW4 63
RSW3 62
RSW2 61
RSW1 60
MECHA POSITION DETECT ROTARY SW INPUTS
LMR 59 → LOADING MOTOR DIRECTION (REVERSE) CONTROL
LMF 58 → LOADING MOTOR DIRECTION (FWD) CONTROL
TRQ.UP 57 → LOADING MOTOR SPEED CONTROL OUT
CMSTOP 56 → CAPSTAN MOTOR ON/OFF CONTROL OUT
CMUP 55 → CAPSTAN MOTOR SPEED UP SIGNAL
DMPLS 54 → DRUM MOTOR SPEED UP PULSE OUT
DMSTOP 53 → DRUM MOTOR ON/OFF CONTROL OUT
CM-FWD 52 → CAPSTAN MOTOR DIRECTION CONTROL (H:FWD)
TRICK 51 → CONTROL SIGNAL WHEN TRICK MODE
CTL.G 50 → CTL AMP GAIN CONTROL OUT
49 NC
REC 48 → REC POWER
X1 47
X2 46
CLOCK
RESET 45 ← RESET INPUT
STBY 44
POWER 43
QUICK 42
REPEAT 41
REC 40
PLAY 39
REW 38
CENTER 37
FF 36
KEY MATRIX INPUT
S LOAD 35 → SERVO IC DATA LATCH SIGNAL
S DATA 34 → SERIAL DATA OUT TO SERVO IC
S CLOCK 33 → SERIAL CLOCK OUT TO SERVO IC



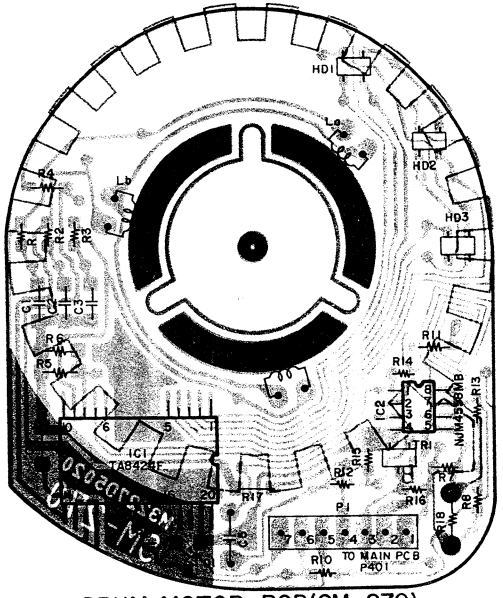
A/C HEAD PCB
V1102B5120J1



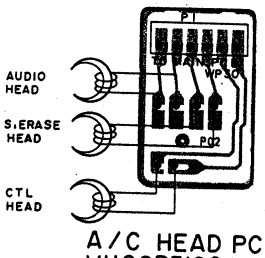
REMO-CON PCB
6A00283B7



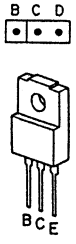
SENSOR PCB
V1102A507A



DRUM MOTOR PCB(SM-270)
M3227D5020J1



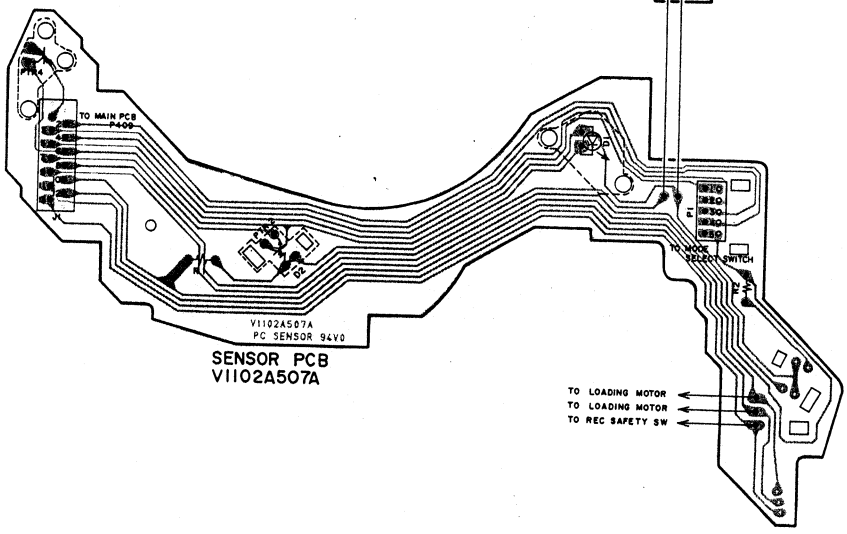
A/C HEAD PCB
V1102B5120J1



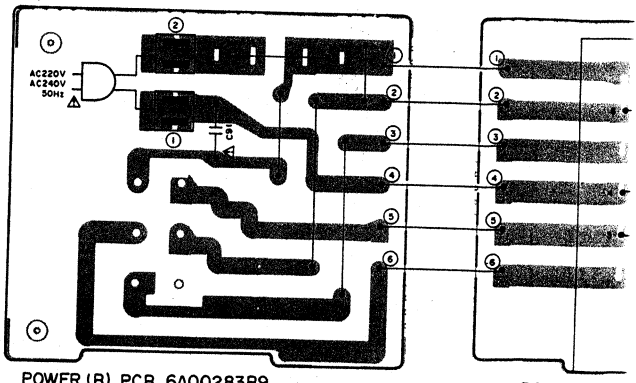
2SD1761
2SD1944

2SC3330

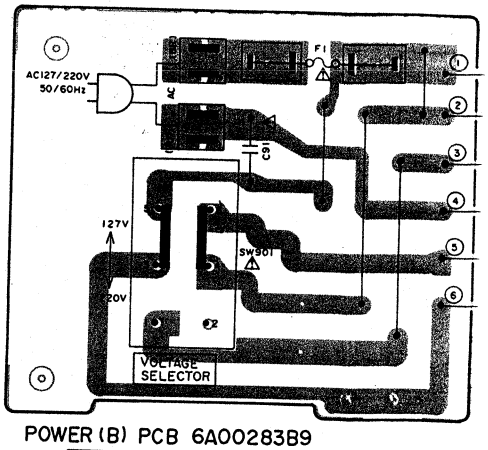
SENSOR(S) PCB
V1102A507B



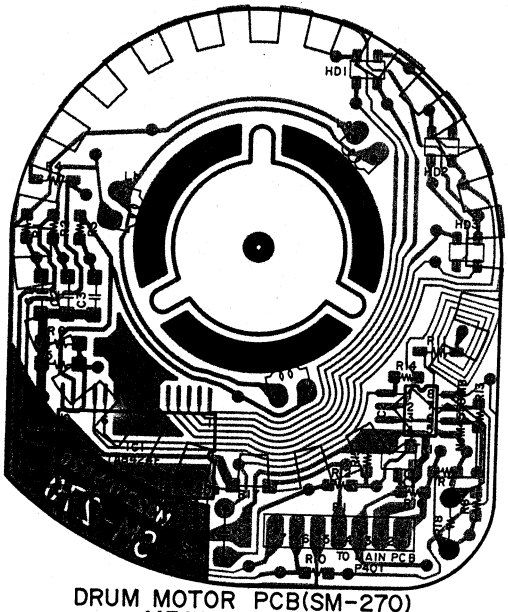
SENSOR PCB
V1102A507A



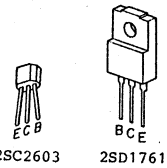
POWER (B) PCB 6A00283B9
EV(E,Y1,Y2)



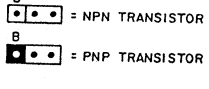
POWER (B) PCB 6A00283B9
EV (Y7 model)



DRUM MOTOR PCB(SM-270)
M3227D5020J1



2SC2603
2SD1761
2SD1944



6-1. VIDEO AND SERVO ADJUSTMENT (VS-P84EG) (VS-P9EA, EV)

Precautionary items prior to adjustments
1. The color bar generator output should be 1.0 Vp-p.
2. The video output terminal should be terminated with 75 ohms (connect dummy load or 75 ohms input TV).

Required following test tapes.

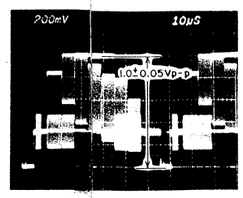
Test tape	Parts No.
TF-527BL	AT-711880
TF-530RFS	AT-751775
TF-532CBS	AT-751360

STEP	ADJUSTMENT ITEM
1.	MODE and INPUT SIGNAL/TEST TAPE
2.	TEST POINT and ADJ part
3.	RESULT & REMARKS

ADJ. part
Test point

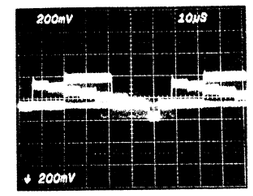
5 VIDEO PB LEVEL

1. "PB", PAL color bar signal
2. VIDEO OUT & VR106(PB LEVEL)
3. * Connect an oscilloscope to VIDEO OUT
   * Make some recording on the tape then play it back
   * Adjust VR106 so that PB level becomes 1.0 ± 0.05 Vp-p

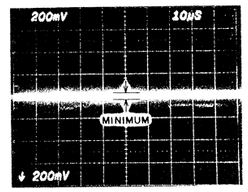


4 CCD

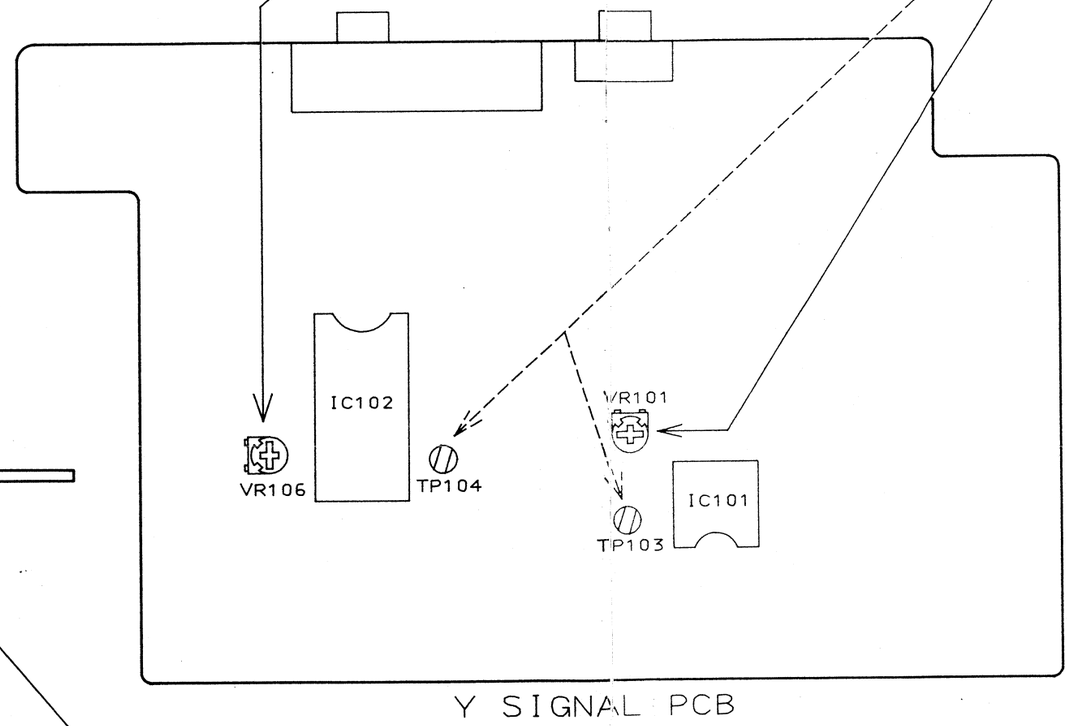
1. "PB", test tape TF-532CBS
2. TP103(CCD),TP104(CCD) & VR101 (CCD LEVEL)
3. * Set an oscilloscope to "ADD" mode and CH-2's polarity to "INVERTED".
   * Connect CH-1 to TP103(CCD) and CH-2 to TP104(CCD).
   * Adjust VR101 so that waveform level on the oscilloscope becomes minimum.

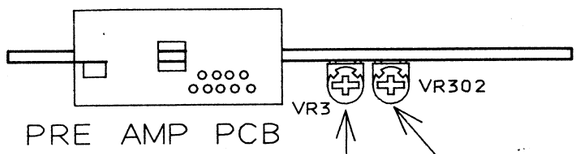


NO GOOD



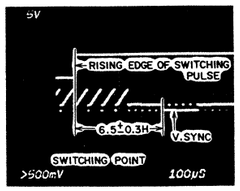
GOOD





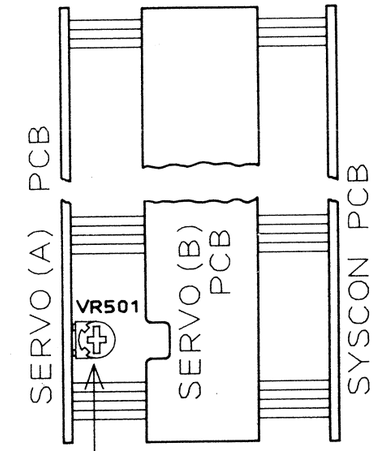
1 PB SWITCHING POINT

1. "PB", test tape TF-530RFS
2. TP-SWP, VIDEO OUT & VR3 (SW.POINT)
3. * Connect an oscilloscope's CH-1 to TP-SWP for triggering and CH-2 to VIDEO OUT
   * Adjust VR3 so that the switching point is positioned 6.5 ± 0.3 H from the V-SYNC left edge as shown.



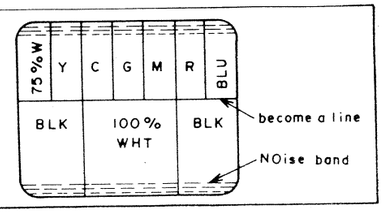
2 AUDIO PB LEVEL

1. "PB", test tape TF-527BL
2. AUDIO OUT & VR302
3. * Connect AC voltmeter to AUDIO OUT
   * -5^{+0}_{-1} dBs



3 VERTICAL STABILITY

1. "PB/STILL" Test tape TF-532CBS
2. TV monitor screen
3. On the PB mode, keep depressing the "STILL" button until still picture becomes noiseless and adjust VR501 so that still picture vibration becomes minimum.



6-2. VIDEO AND SERVO ADJUSTMENT (VS-R9EV)

Precautionary items prior to adjustments
1. The color bar generator output should be 1.0 Vp-p.
2. The video output terminal should be terminated with 75 ohms (connect dummy load or 75 ohms input TV).

Required following test tapes.

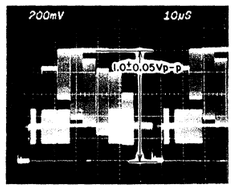
Test tape	Parts No.
TF-527BL	AT-711880
TF-530RFS	AT-751775
TF-532CBS	AT-751360

STEP	ADJUSTMENT ITEM
1.	MODE and INPUT SIGNAL/TEST TAPE
2.	TEST POINT and ADJ part
3.	RESULT & REMARKS

ADJ. part
Test point

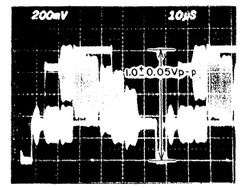
4 VIDEO E-E LEVEL

1. "E-E" (stop mode), PAL color bar signal
2. VIDEO OUT & VR105(E-E LEVEL)
3. * Connect an oscilloscope to VIDEO OUT.
   * 1.0 ± 0.05 Vp-p



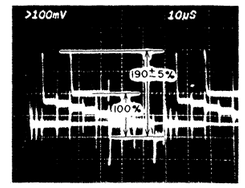
9 VIDEO PB LEVEL

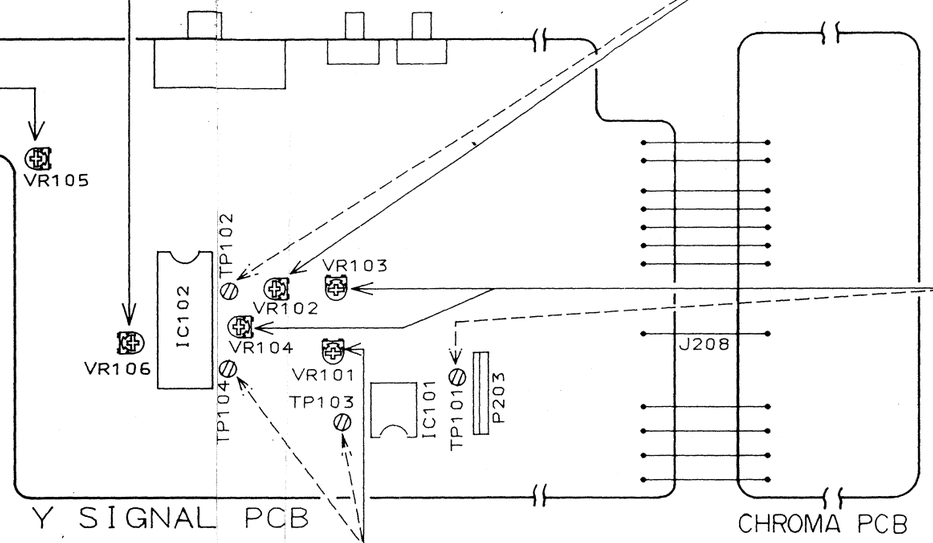
1. "REC"-"PB", PAL color bar signal
2. VIDEO OUT & VR106(PB LEVEL)
3. * Connect an oscilloscope to VIDEO OUT
   * Make some recording on the tape then play it back
   * Adjust VR106 so that PB level becomes 1.0 ± 0.05 Vp-p



5 WHITE CLIP

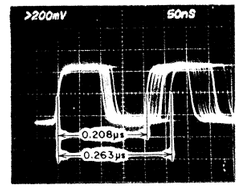
1. "E-E" (stop mode), PAL color bar signal
2. TP102(W.CLIP) & VR102(W.CLIP)
3. * Connect an oscilloscope to TP603(W. CLIP)
   * Adjust VR102(W.CLIP) so that white clip level becomes 190 ± 5 % as shown.

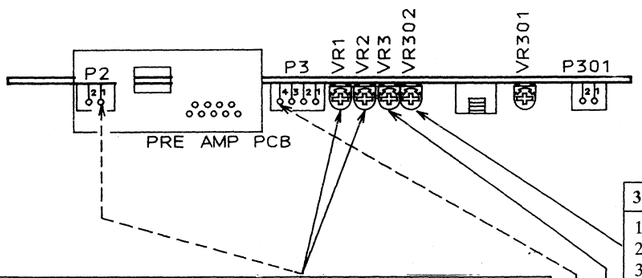




6 CARRIER SET & DEVIATION

1. "REC", PAL color bar signal
2. TP101(REC.Y) & VR103(CARRIER), VR104(DEVIATION)
3. * Connect an oscilloscope to TP101(REC.Y)
   * VR103(CARRIER). 0.263 µs (3.8 MHz)
   * VR104(DEVIATION). 0.208 µs (4.8 MHz)





3 AUDIO REC BIAS

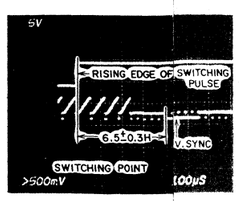
1. "REC",(no signal input)
2. P301 ① pin & VR301
3. * Connect AC voltmeter to P301 ① pin.
   * Adjust VR301 so that the reading on the AC voltmeter becomes 2.4 mV ± 0.1 mV

2 AUDIO PB LEVEL

1. "PB", test tape TF-527BL
2. AUDIO OUT & VR302
3. * Connect AC voltmeter to AUDIO OUT
   * -5^{+0}_{-1} dBs

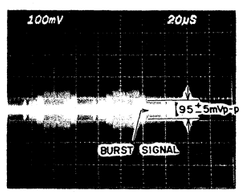
1 PB SWITCHING POINT

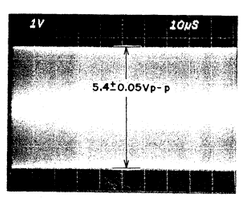
1. "PB", test tape TF-530RFS
2. TP-SWP, VIDEO OUT & VR3 (SW.POINT)
3. * Connect an oscilloscope's CH-1 to TP-SWP for triggering and CH-2 to VIDEO OUT
   * Adjust VR3 so that the switching point is positioned 6.5 ± 0.3 H from the V-SYNC left edge as shown.



7 VIDEO REC CURRENT

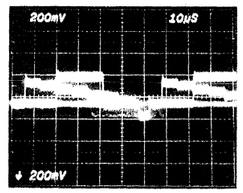
1. "REC", PAL color bar signal
2. P2(REC.CURR), J208(C.SYNC) & VR1(Y), VR2(CHROMA)
3. * Connect an oscilloscope's CH-1 to P2 (REC.CURR), CH-2 to J208(C.SYNC) for triggering and ground to PRE AMP P.C.B.
   * Turn the VR1(Y) fully counter-clockwise.
   * Adjust VR2(CHROMA) so that the chroma REC current becomes 95 ± 5 mVp-p at burst signal area.
   * Disconnect the input signal, then adjust VR1(Y) so that Y REC current becomes 5.4 ± 0.05 Vp-p.



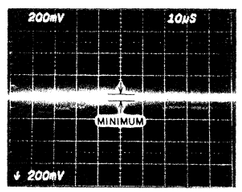


8 CCD

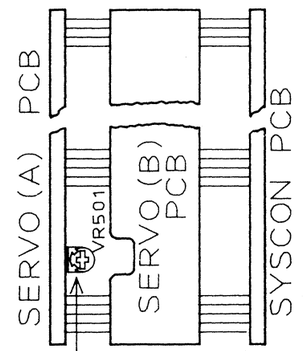
1. "PB", test tape TF-532CBS
2. TP103(CCD),TP104(CCD) & VR101 (CCD LEVEL)
3. * Set an oscilloscope to "ADD" mode and CH-2's polarity to "INVERTED".
   * Connect CH-1 to TP103(CCD) and CH-2 to TP104(CCD).
   * Adjust VR101 so that waveform level on the oscilloscope becomes minimum.



NO GOOD

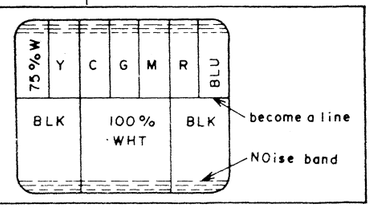


GOOD



10 VERTICAL STABILITY

1. "PB/STILL" Test tape TF-532CBS
2. TV monitor screen
3. On the PB mode, keep depressing the "STILL" button until still picture becomes noiseless and adjust VR501 so that still picture vibration becomes minimum.



VII. PARTS LIST

ATTENTION

1. **When placing an order for parts, be sure to list Part No., Model No. and the description of eachpart. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.**
2. **Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.**
3. **Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.**

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

b) PC Board

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] : AAL (U.S.A) [S] : SAA (Australia)
[B] : BEAB (England) [U] : U/T (Universa Area)
[C] : CSA (Canada) [V] : VDE (W. Germany)
[E] : CEE (Europe) [Y] : Custom Version
[J] : JPN (Janan)

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No.listed at right of Part No.

WARNING

⚠(*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

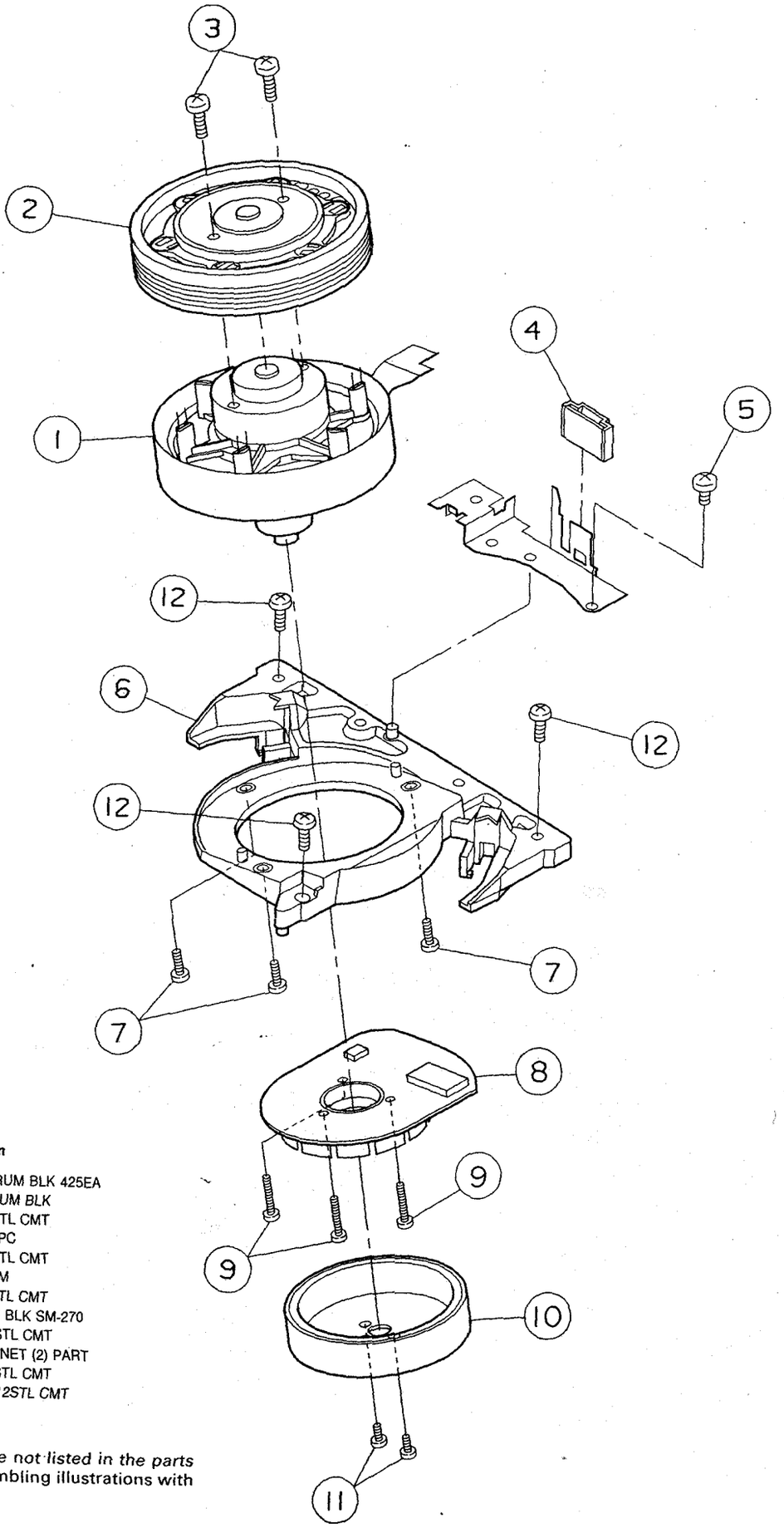
⚠(*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most

Ref. No.	Part No.	Description
1	AV-730605J	REMOCON RC-V84A-EB [P9 ONLY]
2	AV-730638J	REMOCON RC-V85A-EB [R9 ONLY]
3	AV-730644J	REMOCON RC-V86A-EB [P84EG ONLY]
4	BB-V1102D020D	MECHA DECK BLK P9EV [P9/P84 ONLY]
5	BB-V1102A020A	MECHA DECK BLK 425EA [R9 ONLY]
6	BL-V1102A140A	ARM LOADING BLK 425EA
7	BL-387458J2	CAPSTAN BRAKE PART
8	BL-390957J	HOLDER PINCH PART
9	BL-V1102A050A	TENSION ARM BLK 425EA
10	BM-386236J	MOTOR DFX-67B3VWA1
11	BM-390959J	MOTOR PART
12	BM-M3227A020A	PC MOTOR BLK SM-270
13	*BT-730618J	TRANS POWER VA027(E) [P84EG,R9EV-Y1,Y2]
14	*BT-730619J	TRANS POWER VA027(S) [P9/R9EV-E,EA-S]
15	*BT-730621J	TRANS POWER VA027(U5) [P9/R9EV-U]
16	*BT-730620J	TRANS POWER VA027(Y7) [P9/R9EV-Y7]
17	BV-V1102A150A	CASSETTE LOAD BLK 425EA
18	BV-V1102A070A	LEADER S BLK 425EA
19	BV-V1102A080A	LEADER T BLK 425EA
20	BV-V1102A410A	LOWER DRUM BLK 425EA
21	BV-725817J	RF CONVERTER MDLK2S510A [EA ONLY]
22	BV-730498J	RF CONVERTER MDLK5D023A [EV-E/Y7/U]
23	BV-730660J	RF CONVERTER MDLK6D253A [P84EG,R9EV-Y1]
24	BV-731165J	RF CONVERTER MDLK6R013A [EV-Y2]
25	BV-V1102A420A	UPPER DRUM BLK
26	ED-390011J	D LED GL451 INFRARED [D1]
27	ED-390012J	D LED GL4800 INFRARED [D2]
28	ED-725278J	D LED SLR-34MC70F GREEN [PLAY]
29	ED-725276J	D LED SLR-34VC70F RED [REPEAT]
30	ED-725277J	D LED SLR-54MC70F GREEN [QUICK]
31	ED-730668J	D LED SPB-25MVWF [STANDBY/POWER]
32	ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
33	ED-717489	D SCHOTTKY 1SS119 [R9 ONLY]
34	*ED-379298	D SILICON DBA20B 100/2.0A
35	ED-379041	D SILICON S5566B 100/1.0A
36	ED-730659J	D THYRISTOR SF2B41 [U,Y7 ONLY]
37	ED-391005J	D ZENER H HZS12B1
38	ED-391103J	D ZENER H HZS12B2
39	ED-364030	D ZENER H HZS16B3J F05
40	ED-384936J	D ZENER H HZS27B3J F05 [U,Y7 ONLY]
41	ED-389418J	D ZENER H HZS5.1B3S T26
42	ED-387763J	D ZENER H HZS7B3L F05
43	ED-388368J	D ZENER H HZS9B3L F05
44	ED-346417	D ZENER H HZ2C3FA F10
45	*EF-258344	FUSE SEMKO T 250V 800MA [U,Y7 ONLY]
46	EH-730666J	DL FE-2247Q
47	EH-731166J	FILTER BLK SFBBLB000F4E-0698-03
48	EH-368821	FILTER LC LP MYV-23R
49	EH-731163J	FILTER LP SEL102671P5E-4801-02
50	EI-389467J	IC AN3247NK
51	EI-373980	IC BA15218N
52	EI-353421	IC BA6229
53	EI-387598J	IC BA7252S
54	EI-388360J	IC BA7765AS
55	EI-381630J	IC LA7330
56	EI-373966	IC MSM6965-3RS
57	EI-725303J	IC M51951BSL
58	EI-389484J	IC SX2777CS
59	EI-730657J	IC UPD75104CW-195
60	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
61	EI-381632J	OSC X'TAL(86686) 4.433619MHZ
62	EO-730665J	OSC BLK [R9 ONLY]
63	*ER-392807J	R FUSE H S10 RF25SC 1/6W R12K
64	*ER-391043J	R FUSE H S10 RF25SC 1/6W R47K
65	*ER-391044J	R FUSE H S10 RF25SC 1/6W R68K
66	*ER-389875J	R OMF H S10 FS 1/2W R68J
67	ES-373099	SW LEAF MTS10110MPC1 [R9 ONLY]
68	ES-387465J	SW MODE SELECT MMS00070ZLBO
69	*ES-730658J	SW SLIDE SDKGA4 [U,Y7 ONLY]
70	ES-731164J	SW SLIDE SSSF111-32 [EV,EG ONLY]
71	ES-730667J	SW TACT SKHVBD [POWER]
72	ET-363953	TR DTA114TS
73	ET-354370	TR DTA124ES [EV,EG ONLY]
74	ET-354415	TR DTA144ES
75	ET-353897	TR DTC114ES
76	ET-364060	TR DTC143ES [EV,EG ONLY]
77	ET-354414	TR DTC144ES
78	ET-361490	TR PHOTO PN268 R,S [PTR1]
79	ET-390010J	TR PHOTO PT4800 [PTR2]
80	ET-390009J	TR PHOTO PT493F [PTR4]
81	ET-308472	TR 2SA1115 E,F,G F05
82	ET-356224	TR 2SA1286 G,H,J F05 [R9 ONLY]
83	ET-308141	TR 2SC2603 G F05
84	*ET-380685J	TR 2SD1761 E,F,G
85	*ET-373025	TR 2SD1944 J1,J2,K
86	HC-380464J	HEAD CTL HVMZB1003A [P9/P84 ONLY]
87	HR-390015J	HEAD COMBO HVMZA1045C [R9 ONLY]
88	MB-387289J	BELT CAPSTAN
89	MI-387294J	IDLLER PART
90	ML-387311J1	ARM COUPLING
91	ML-391745J2	ARM DAMPER
92	ML-387350J1	ARM LID OPENER
93	ML-387423J	ARM LOADING BRAKE
94	ML-387277J2	ARM REVIEW PART
95	ML-387402J	LEVER TRIGGER
96	ML-387316J	MAIN BRAKE(S) PART
97	ML-387318J	MAIN BRAKE(T) PART
98	ML-387321J	REVIEW BRAKE PART
99	ML-387324J	SLIDER BRAKE PART
100	ML-387327J	SLIDER TRIGGER
101	MR-387406J	HOLDER THRUST WORM
102	MR-391968J	PULLEY TRIGGER(2)
103	MR-387286J	ROLLER IMPEDANCE
104	MT-390954J1	DISK (2)PART
105	MZ-387298J1	DISK CLUTCH PART
106	MZ-387331J	GEAR CAM SLIDER
107	MZ-387335J	GEAR EJECT
108	MZ-387333J	GEAR FRONT LOADING
109	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
110	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
111	MZ-387330J	GEAR WORM PART
112	MZ-387332J	GEAR WORM WHEEL

HEAD DRUM BLOCK

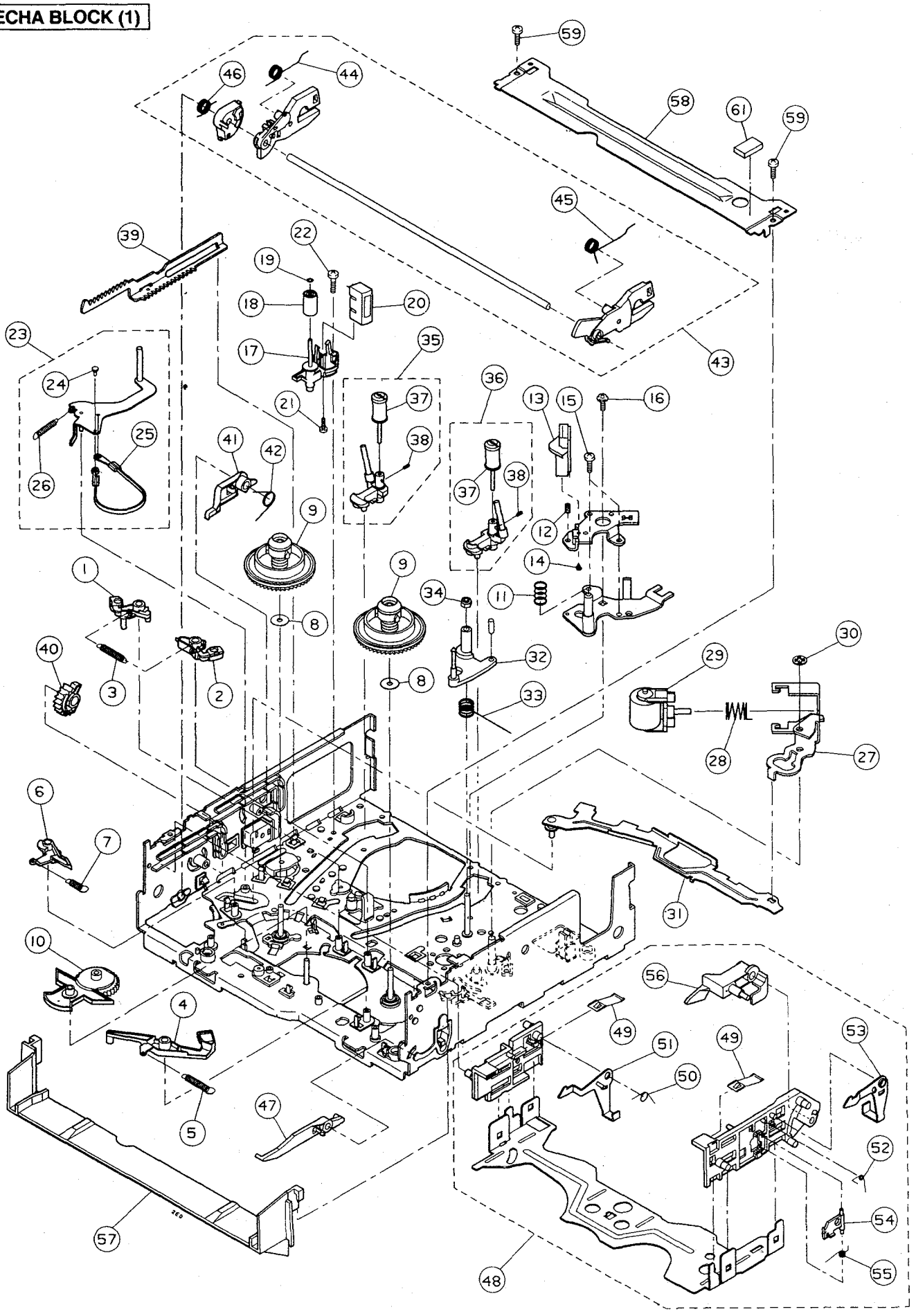


2. HEAD DRUM BLOCK

Ref. No.	Part No.	Description
1	BV-V1102A410A	LOWER DRUM BLK 425EA
2	BV-V1102A420A	*UPPER DRUM BLK*
3	ZS-321298	BID30X08STL CMT
4	SZ-387388J	HOLDER FPC
5	ZS-379405	BID30X06STL CMT
6	MA-387474J	BASE DRUM
7	ZS-563444	*BID26X08STL CMT*
8	BM-M3227A020A	PC MOTOR BLK SM-270
9	ZS-467796	PAN26X12STL CMT
10	BV-393334J	YOKE MAGNET (2) PART
11	ZS-479474	PAN26X05STL CMT
12	ZS-370047	*DT BID30X12STL CMT*

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

MECHA BLOCK (1)

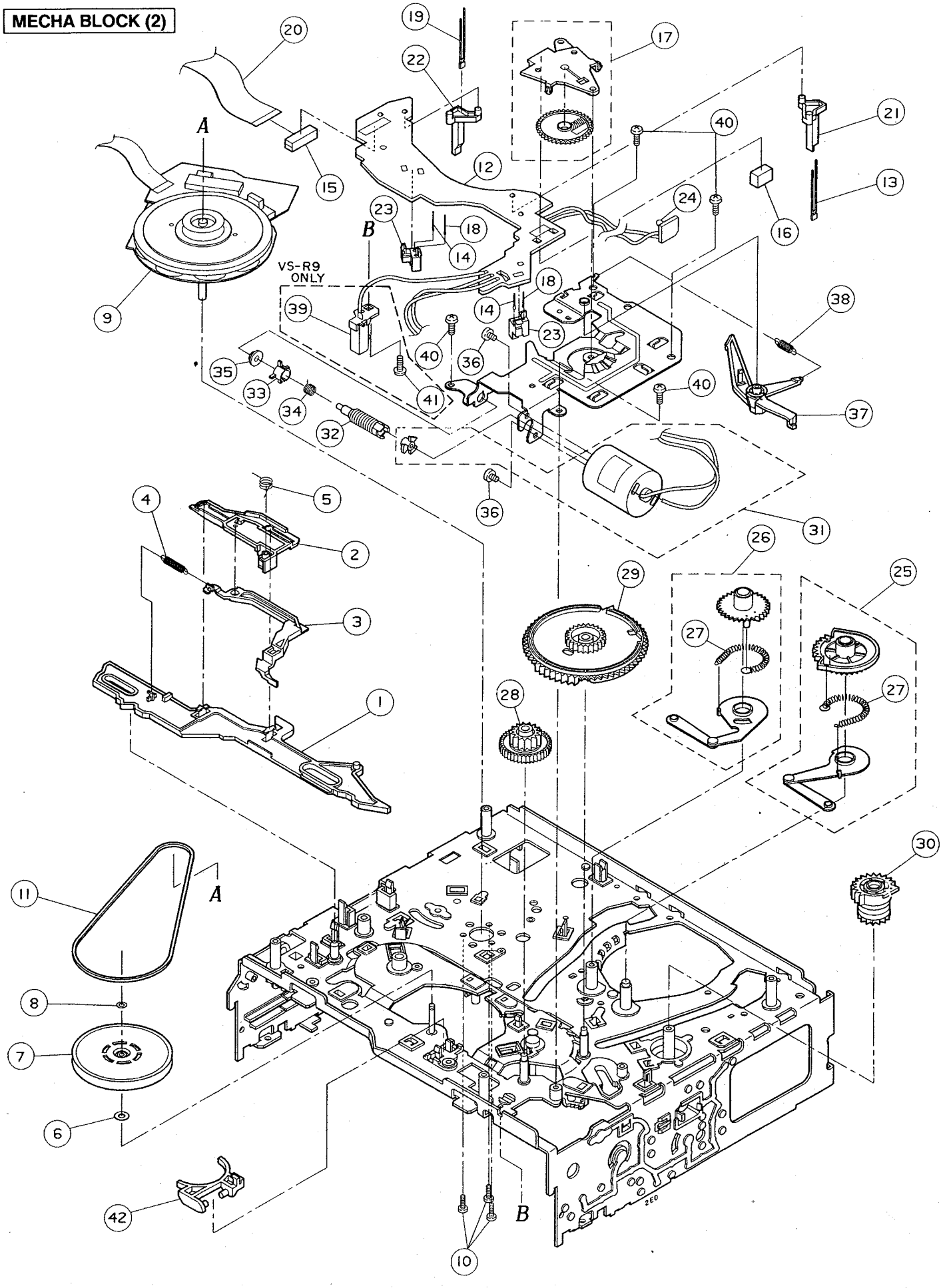


3. MECHA BLOCK (1)

Ref. No.	Part No.	Description
1	ML-387316J	MAIN BRAKE(S) PART
2	ML-387318J	MAIN BRAKE(T) PART
3	ZG-387320J	SP PULL MAIN BRAKE
4	ML-387321J	REVIEW BRAKE PART
5	ZG-387323J	SP PULL REVIEW BRAKE
6	ML-387423J	ARM LOADING BRAKE
7	ZG-387467J	SP PULL LOADING BRAKE
8	ZW-389814J	PW31X110X050PSL
9	MT-390954J1	DISK (2)PART
10	MI-387294J	IDLLER PART
11	ZG-387438J	SP PUSH A/C
12	ZG-373900	6SET30X080SCM PKR CP
13A	HC-380464J	HEAD CTL HVMZB1003A [P9/P84 ONLY]
13B	HR-390015J	HEAD COMBO HVMZA1045C [R9 ONLY]
14	ZS-373899	PAN20X2.5STL BDY PS1
15	ZS-321298	BID30X08STL CMT
16	ZS-389853J	DT BID30X06STL CMT C080
17	MZ-387495J1	HOLDER FE HEAD PART
18	MR-387286J	ROLLER IMPEDANCE
19	ZW-374445	SLIT W17X032X025PSL
20	HE-361456	HEAD E HVFMD0015B [R9 ONLY]
21	ZS-477876	PAN20X03STL CMT [R9 ONLY]
22	ZS-370047	DT BID30X12STL CMT
23	BL-V1102A050A	TENSION ARM BLK 425EA
24	SZ-387263J	HOLDER LEVER TENSION
25	ML-390768J	TENSION BAND PART
26	ZG-387272J	SP PULL TENSION
27	ML-387433J2	ARM PINCH
28	ZG-387276J	SP PUSH PINCH
29	BL-390957J	HOLDER PINCH PART
30	ZW-332843	RETAINING RING GRIP 380STL ACP
31	ML-387431J	SLIDER PINCH PART
32	ML-387277J2	ARM REVIEW PART
33	ZG-387282J	SP TORSION REVIEW
34	ZW-350839	N30 NYLON
35	BV-V1102A070A	LEADER S BLK 425EA
36	BV-V1102A080A	LEADER T BLK 425EA
37	VT-387394J1	GUIDE ROLLER D8 PART
38	ZS-374458	6SET20X030SCM PKR FP
39	ML-387428J	SLIDER FRONT LOADING
40	MZ-387335J	GEAR EJECT
41	ML-391745J2	ARM DAMPER
42	ZG-391744J	SP TORSION ARM DAMPER
43	BL-V1102A140A	ARM LOADING BLK 425EA
44	ZG-387417J	SP TORSION LOAD(S)
45	ZG-387418J	SP TORSION LOAD(T)
46	ZG-392831J	SP TORSION JOINT(2)
47	ML-387350J1	ARM LID OPENER
48	BV-V1102A150A	CASSETTE LOAD BLK 425EA
49	ZG-387348J	SP PLATE HOLDER
50	ZG-387421J	SP TORSION DAMPER(S)
51	ML-387345J	LEVER DAMPER(S)
52	ZG-388290J	SP TORSION DAMPER(T)
53	ML-387346J	LEVER DAMPER(T)
54	ML-387344J	LEVER LOCK RELEASE
55	ZG-387420J	SP TORSION RELEASE
56	ML-387349J	ARM SHUTTER
57	SE-387343J1	GUIDE FRONT
58	MZ-387351J1	PLATE UPPER
59	ZS-364543	DT BID30X06STL CMT
60A	BB-V1102D020D	MECHA DECK BLK P9EV [P9/P84 ONLY]
60B	BB-V1102A020A	MECHA DECK BLK 425EA [R9 ONLY]
61	SZ-391866J1	CUSHION COVER
62	ZG-392294J	SP PLATE EARTH

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

MECHA BLOCK (2)



4. MECHA BLOCK (2)

Ref. No.	Part No.	Description
1	ML-387324J	SLIDER BRAKE PART
2	ML-387327J	SLIDER TRIGGER
3	ML-387402J	LEVER TRIGGER
4	ZG-387468J	SP PULL SLIDER
5	ZG-387403J	SP TORSION COUPLING
6	ZW-389923J	PW26X060X050PSL
7	MZ-387298J1	DISK CLUTCH PART
8	ZW-387492J	SLIT W21X040X050PSL
9	BM-386236J	MOTOR DFX-67B3VWA1
10	ZS-365149	PT BID26X06STL CMT
11	MB-387289J	BELT CAPSTAN
12	EA-387496J	PC(#)SENSOR
13	ED-390011J	D LED GL451 INFRARED [D1]
14	ED-390012J	D LED GL4800 INFRARED [D2]
15	EJ-387497J	SOCKET HOUSING 5062-30-10-13
16	EJ-381837J	SOCKET 174074-5 5P
17	ES-387465J	SW MODE SELECT MMS00070ZLBO
18	ET-390010J	TR PHOTO PT4800 [PTR2]
19	ET-390009J	TR PHOTO PT493F [PTR4]
20	EW-389313J	CORD FFC P1.25 L=120 13P
21	MZ-387430J	HOLDER D-LED
22	MZ-387445J	HOLDER S SENSOR
23	MZ-387446J	HOLDER PHOTO SENSOR
24	ET-361490	TR PHOTO PN268 R,S [PTR1]
25	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
26	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
27	ZG-387413J	SP PULL TOGGLE
28	MZ-387332J	GEAR WORM WHEEL
29	MZ-387331J	GEAR CAM SLIDER
30	MZ-387333J	GEAR FRONT LOADING
31	BM-390959J	MOTOR PART
32	MZ-387330J	GEAR WORM PART
33	MR-391968J	PULLEY TRIGGER(2)
34	ZG-387443J	SP TRIGGER
35	MR-387406J	HOLDER THRUST WORM
36	ZS-425981	BID30X03STL CMT
37	BL-387458J2	CAPSTAN BRAKE PART
38	ZG-387502J	SP PULL CAPSTAN BRAKE
39	ES-373099	SW LEAF MTS10110MPC1 [R9 ONLY]
40	ZS-389950J	PT BID26X10STL CMT
41	ZS-364543	DT BID30X06STL CMT [R9 ONLY]
42	ML-387311J1	ARM COUPLING

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

5. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1A	BA-VA027A600C	PC(#) MAIN BLK VS-P9EV(E)
1B	BA-VA027A600B	PC(#) MAIN BLK VS-P9EV(Y7)
1C	BA-VA027A600A	PC(#) MAIN BLK VS-P9EV(U)
1D	BA-VA027A600D	PC(#) MAIN BLK VS-P9EA(S)
1E	BA-VA027A600E	PC(#) MAIN BLK VS-P84EG/TR
1F	BD-VA028A600C	PC(#) MAIN BLK VS-R9EV(E)
1G	BA-VA028A600D	PC(#) MAIN BLK VS-R9EV(Y1)
1H	BD-VA028A600B	PC(#) MAIN BLK VS-R9EV(Y7)
1I	BD-VA028A600A	PC(#) MAIN BLK VS-R9EV(U)
1J	BA-VA028A600E	PC(#) MAIN BLK VS-R9EV(Y2)

PC (#) MAIN BLK CONSISTS OF FOLLOWING P.C BOARD.
* Y SIGNAL P.C BOARD
* CHROMA P.C BOARD
* PRE-AMP/AUDIO P.C BOARD
* SERVO (A) P.C BOARD
* SYSCON P.C BOARD
* OPERATION P.C BOARD
* REMOCON P.C BOARD
* POWER (A) P.C BOARD
* DIODE P.C BOARD
* JUNCTION P.C BOARD

6. Y SIGNAL P.C BOARD

Ref. No.	Part No.	Description
D101	ED-717489	D SCHOTTKY 1SS119 [R9 ONLY]
D102	ED-717489	D SCHOTTKY 1SS119
D103	ED-386226J	D SCHOTTKY RB100AT-32T26 40/1
FL101	EH-368821	FILTER LC LP MYV-23R
FL102	EH-731163J	FILTER LP SEL102671P5E-4801-02
IC101	EI-373966	IC MSM6965-3RS
IC102	EI-389467J	IC AN3247NK
JK101	EJ-730632J	PIN J YKC21-2313 2P [P9/P84 ONLY]
JK101A	EJ-730633J	PIN J YKC21-2312 4P [R9 ONLY]
L101	EO-392801J	COIL FIX 1 LF-7.5 F10 2R2M
L102	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L103	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L104	EO-392800J	COIL FIX 1 LF-7.5 F10 820K
L105	EO-392792J	COIL FIX 1 LF-7.5 F10 180K
L106	EO-392789J	COIL FIX 1 LF-7.5 F10 100K
L107	EO-392791J	COIL FIX 1 LF-7.5 F10 151K
L108	EO-392794J	COIL FIX 1 LF-7.5 F10 220K
L109	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L110	EO-392799J	COIL FIX 1 LF-7.5 F10 470K
L111	EO-392801J	COIL FIX 1 LF-7.5 F10 2R2M
MJ101	EJ-725294J	JACK HSJ0707-01-020 [REMOTE][R9 ONLY]
Q101	ET-356224	TR 2SA1286 G,H,J F05 [R9 ONLY]
Q102	ET-308472	TR 2SA1115 E,F,G F05
Q103	ET-308472	TR 2SA1115 E,F,G F05
Q104	ET-308141	TR 2SC2603 G F05
Q105	ET-308141	TR 2SC2603 G F05
Q106	ET-356224	TR 2SA1286 G,H,J F05
Q107	ET-356224	TR 2SA1286 G,H,J F05
SW101	ES-731164J	SW SLIDE SSSF111-32 [EV,EG ONLY]
VR101	EV-356577	R S-FIX H RH0615C 0.10W 103
VR102	EV-356583	R S-FIX H RH0615C 0.10W 332 [R9 ONLY]
VR103	EV-356679	R S-FIX H RH0615C 0.10W 682 [R9 ONLY]
VR104	EV-356576	R S-FIX H RH0615C 0.10W 472 [R9 ONLY]
VR105	EV-362115	R S-FIX H RH0615C 0.10W 153 [R9 ONLY]
VR106	EV-362115	R S-FIX H RH0615C 0.10W 153
1A	BV-730498J	RF CONVERTER MDLK5D023A [EV-E/Y7/U]
1B	BV-725817J	RF CONVERTER MDLK2S510A [EA ONLY]
1C	BV-730660J	RF CONVERTER MDLK6D253A [P84EG,R9EV-Y1]
1D	BV-731165J	RF CONVERTER MDLK6R013A [EV-Y2]

7. CHROMA P.C BOARD

Ref. No.	Part No.	Description
D201	ED-717489	D SCHOTTKY 1SS119
D202	ED-717489	D SCHOTTKY 1SS119
DL201	EH-730666J	DL FE-2247Q
FL201	EH-731166J	FILTER BLK SFBBLB000F4E-0698-03
IC201	EI-381630J	IC LA7330
L201	EO-730121J	COIL FIX 1 LF-7.5 471K
L202	EO-730120J	COIL FIX 1 LF-7.5 331K
L203	EO-390417J	COIL FIX 1 LF-7.5 F10 120K [EV,EG ONLY]
L204	EO-392799J	COIL FIX 1 LF-7.5 F10 470K
L205	EO-392796J	COIL FIX 1 LF-7.5 F10 3R3K
L206	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L207	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L208	EO-392792J	COIL FIX 1 LF-7.5 F10 180K
L209	EO-392798J	COIL FIX 1 LF-7.5 F10 390K
L210	EO-392790J	COIL FIX 1 LF-7.5 F10 150K
L211	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
Q108	ET-308472	TR 2SA1115 E,F,G F05
Q201	ET-308141	TR 2SC2603 G F05
Q202	ET-308141	TR 2SC2603 G F05
Q203	ET-353897	TR DTC114ES
Q204	ET-354370	TR DTA124ES [EV,EG ONLY]
Q205	ET-364060	TR DTC143ES [EV,EG ONLY]
Q206	ET-308141	TR 2SC2603 G F05
Q207	ET-354414	TR DTC144ES
Q208	ET-308141	TR 2SC2603 G F05
Q209	ET-353897	TR DTC114ES
Q210	ET-308141	TR 2SC2603 G F05
Q211	ET-308141	TR 2SC2603 G F05
Q212	ET-308472	TR 2SA1115 E,F,G F05 [R9 ONLY]
Q213	ET-308472	TR 2SA1115 E,F,G F05
XT201	EI-381632J	OSC X'TAL(86686) 4.433619MHZ

8. PRE-AMP/AUDIO P.C BOARD

Ref. No.	Part No.	Description
IC1	EI-387598J	IC BA7252S
IC103	EI-388360J	IC BA7765AS
L1	EO-353589	COIL FIX 1 LAP02 F05 5R6K [R9 ONLY]
L2	EO-376858	COIL FIX 1 LF-5.0S F05 560K
L3	EO-360555	COIL FIX 1 LAP02 F05 180K
L4	EO-381193J	COIL FIX 1 EL0405SKI 271K
L5	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L6	EO-385979J	COIL FIX 1 LF-7.5 F10 181K [R9 ONLY]
L7	EO-376179	COIL FIX 1 ALF-7.5F F05 101K [R9 ONLY]
L8	EO-351860	COIL FIX 1 LAP02 F05 8R2K [R9 ONLY]
L9	EO-353900	COIL FIX 1 LAP02 F05 150K [R9 ONLY]
L10	EO-353902	COIL FIX 1 LAP02 F05 680K [R9 ONLY]
L301	EO-730144J	COIL FIX 1 ELF0708 272J [R9 ONLY]
L302	EO-347162	COIL FIX 1 TL-8 103J [R9 ONLY]
P1	EJ-387587J	SOCKET 8370-67-800 6P
Q1	ET-308472	TR 2SA1115 E,F,G F05
Q2	ET-308141	TR 2SC2603 G F05
Q3	ET-308141	TR 2SC2603 G F05
Q301	ET-308141	TR 2SC2603 G F05 [R9 ONLY]
T301	EO-730665J	OSC BLK [R9 ONLY]
VR1	EV-730497J	R S-FIX V RH0614C13J 102 [R9 ONLY]
VR2	EV-730496J	R S-FIX V RH0614CS2J 471 [R9 ONLY]
VR3	EV-730142J	R S-FIX V RH0644CJ4J 223
VR301	EV-730664J	R S-FIX V RH0614CS4J 473 [R9 ONLY]
VR302	EV-730124J	R S-FIX V RH0614C14J 103

9. SERVO (A) P.C BOARD

Ref. No.	Part No.	Description
D502	ED-717489	D SCHOTTKY 1SS119
D503	ED-717489	D SCHOTTKY 1SS119
D504	ED-717489	D SCHOTTKY 1SS119
D505	ED-717489	D SCHOTTKY 1SS119
D508	ED-717489	D SCHOTTKY 1SS119
D509	ED-717489	D SCHOTTKY 1SS119
D510	ED-717489	D SCHOTTKY 1SS119
D511	ED-717489	D SCHOTTKY 1SS119
D512	ED-346417	D ZENER H HZ2C3FA F10
D513	ED-717489	D SCHOTTKY 1SS119
D516	ED-379041	D SILICON S5566B 100/1.0A
IC502	EI-389484J	IC SX2777CS
IC505	EI-373980	IC BA15218N
L501	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L502	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
Q504	ET-363953	TR DTA114TS
Q505	ET-354414	TR DTC144ES
Q507	ET-354414	TR DTC144ES
Q508	ET-356224	TR 2SA1286 G,H,J F05
VR501	EV-725302J	R S-FIX V RH0652C 104

10. SYSCON P.C BOARD

Ref. No.	Part No.	Description
D501	ED-717489	D SCHOTTKY 1SS119
D506	ED-717489	D SCHOTTKY 1SS119
D507	ED-717489	D SCHOTTKY 1SS119
D517	ED-717489	D SCHOTTKY 1SS119
D519	ED-717489	D SCHOTTKY 1SS119
IC501	EI-725303J	IC M51951BSL
IC504	EI-730657J	IC UPD75104CW-195
L503	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
Q501	ET-354414	TR DTC144ES
Q502	ET-354414	TR DTC144ES
Q503	ET-354414	TR DTC144ES
Q510	ET-354415	TR DTA144ES
Q511	ET-354415	TR DTA144ES
Q512	ET-354415	TR DTA144ES
X501	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ

11. SERVO (B) P.C BOARD

Ref. No.	Part No.	Description
D514	ED-388368J	D ZENER H HZS9B3L F05
D515	ED-387763J	D ZENER H HZS7B3L F05
IC503	EI-353421	IC BA6229
Q506	ET-354414	TR DTC144ES
Q509	ET-308472	TR 2SA1115 E,F,G F05
R554	*ER-730622J	R MF H 1W R47

12. OPERATION P.C BOARD

Ref. No.	Part No.	Description
D801	ED-730668J	D LED SPB-25MVWF [STANDBY/POWER]
D802	ED-725277J	D LED SLR-54MC70F GREEN [QUICK]
D803	ED-725276J	D LED SLR-34VC70F RED [REPEAT]
D804	ED-725276J	D LED SLR-34VC70F RED [REC][R9 ONLY]
D805	ED-725278J	D LED SLR-34MC70F GREEN [PLAY]
D806	ED-725276J	D LED SLR-34VC70F RED [REW]
D807	ED-725276J	D LED SLR-34VC70F RED [CENTER]
D808	ED-725277J	D LED SLR-54MC70F GREEN [QUICK]
D809	ED-725276J	D LED SLR-34VC70F RED [FF]
SW801	ES-730667J	SW TACT SKHVBD [POWER]
SW802	ES-730667J	SW TACT SKHVBD [REC][R9 ONLY]
SW803	ES-730667J	SW TACT SKHVBD [STILL]
SW804	ES-730667J	SW TACT SKHVBD [STOP]
SW805	ES-730667J	SW TACT SKHVBD [PLAY]
SW806	ES-730667J	SW TACT SKHVBD [REW]
SW807	ES-730667J	SW TACT SKHVBD [FF]
SW808	ES-730667J	SW TACT SKHVBD [TRACK <]
SW809	ES-730667J	SW TACT SKHVBD [TRACK >]

13. REMOCON P.C BOARD

Ref. No.	Part No.	Description
Z801	ET-381637J1	DETECTOR GP1U521X

14. POWER (A) P.C BOARD

Ref. No.	Part No.	Description
C901	EC-363491	C EC V CUT SME 222M 25.0DC
C909	EC-363491	C EC V CUT SME 222M 25.0DC
D901	*ED-379041	D SILICON S5566B 100/1.0A
D902	*ED-379041	D SILICON S5566B 100/1.0A
D903	*ED-379041	D SILICON S5566B 100/1.0A
D904	*ED-379041	D SILICON S5566B 100/1.0A
D905	ED-364030	D ZENER H HZS16B3J F05
D906	ED-391005J	D ZENER H HZS12B1
D907	ED-717489	D SCHOTTKY 1SS119
D908	ED-717489	D SCHOTTKY 1SS119 [U,Y7 ONLY]
D909	ED-384936J	D ZENER H HZS27B3J F05 [U,Y7 ONLY]
D910	ED-389418J	D ZENER H HZS5.1B3S T26
D911	ED-717489	D SCHOTTKY 1SS119
D912	ED-379041	D SILICON S5566B 100/1.0A
FR901	*ER-391044J	R FUSE H S10 RF25SC 1/6W R68K
FR902	*ER-391043J	R FUSE H S10 RF25SC 1/6W R47K
FR903	*ER-392807J	R FUSE H S10 RF25SC 1/6W R12K
FR904	*ER-392807J	R FUSE H S10 RF25SC 1/6W R12K
IC901	*EI-373980	IC BA15218N
Q901	*ET-380685J	TR 2SD1761 E,F,G
Q902	*ET-308141	TR 2SC2603 G F05
Q903	*ET-380685J	TR 2SD1761 E,F,G
Q904	*ET-373025	TR 2SD1944 J1,J2,K
Q905	*ET-380685J	TR 2SD1761 E,F,G
R903	*ER-389875J	R OMF H S10 FS 1/2W R68J
SR901	ED-730659J	D THYRISTOR SF2B41 [U,Y7 ONLY]
T901A	*BT-730621J	TRANS POWER VA027(U5) [P9/R9EV-U]
T901B	*BT-730620J	TRANS POWER VA027(Y7) [P9/R9EV-Y7]
T901C	*BT-730619J	TRANS POWER VA027(S) [P9/R9EV-E,EA-S]
T901D	*BT-730618J	TRANS POWER VA027(E) [P84EG,R9EV-Y1,Y2]

15. POWER (B) P.C BOARD

Ref. No.	Part No.	Description
C916	*EC-389414J	C CE V DE7 B102K 400AC
SW901	*ES-730658J	SW SLIDE SDKGA4 [U,Y7 ONLY]
F1	*EF-258344	FUSE SEMKO T 250V 800MA [U,Y7 ONLY]

16. DIODE P.C BOARD

Ref. No.	Part No.	Description
DB901	*ED-379298	D SILICON DBA20B 100/2.0A

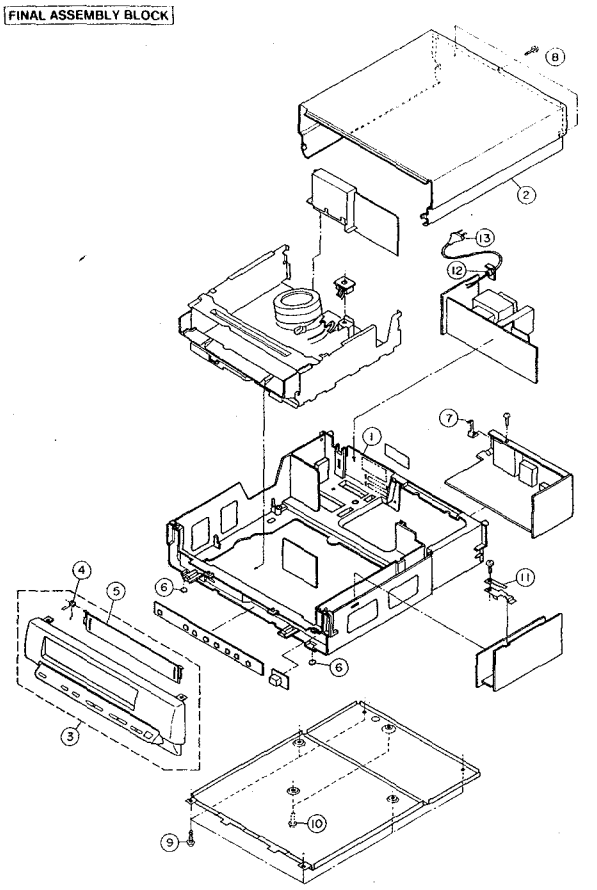
17. JUNCTION P.C BOARD

Ref. No.	Part No.	Description
D1	ED-391103J	D ZENER H HZS12B2
TR1	ET-380685J	TR 2SD1761 E,F,G

ABBREVIATIONS (VIDEO)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A	Audio or Analogue	MOD	MODulator
AC	Alternating Current	MRS	Motor ReverSe
ACC	Automatic Color Control	NG	Noise Gate
A/C	Audio and Control	NICAM	Near Instanteneous Compand Audio Multiplex
ADJ	ADJust(ment)		
AFC	Automatic Frequency Control	NON-LIN	NON-LINear
AFT	Automatic Fine Tuning	N.T.S.C.	National Television System Committee
AGC	Automatic Gain Control	OSC	OSCillator
AH	Audio Head	PAL	Phase Alternation by Line
AL	ALways(voltage)	PB	Play Back
ALC	Automatic Level Control	PCB (P.C.B)	Printed Circuit Board
A-SW.P	Audio SWitching Pulse	P-COM	Phase-COMparator
A-MUTE	Audio MUTE	P DOWN	Power DOWN
ANT	ANTenna	PG	Pulse Generator
APC	Automatic Phase Control	P.I.P	Picture In Picture
ASSY	ASSemblY	PL,PLG	PLunger (PLunGer)
BAL	BALance	PRG (PGM)	PRoGram (ProGraM)
B DOWN	Break DOWN	PU	Pick UP (head, pulse)
BGP	Burst Gate Pulse	PWR	PoWeR
BLK	BLocK or BLacK	Q	Quality factor
BPF	Band Pass Filter	R	Right
BU	Back Up(voltage)	RAM	Random Access Memory
B/W	Black and White	REC	RECord
C	Chroma or Color	REF	REFerence
CCD	Charge Coupled Device	REF-V	REFerence Vertical signal
CCIR	Comité Consultatif International des Radio communications	REG	REGulator
		REV (REVW)	REView (REVieW)
CH(ch)	CHannel (channel)	REW	REWind
CLK	CLocK	RF	Radio Frequency
CM	Capstan Motor	ROM	Read Only Memory
CN	CoNnector	R.S SW	Record-Safety SWitch
COMP	COMParator	RST (RES)	ReSet (RESet)
CSW	Cassette SWitch	RVS	ReVerSe
CSYNC	Composite SYNC	S	Sensor, Shield
CTL	ConTrol	SAW	Surface Acoustic Wave
CUE	CUE	SC	SimulCast
DAC	Digital to Analog Converter	S CLK	Serial CLocK
DC	Direct Current	SECAM	SÉquentiel Couleur À Mémoire
DEMOD	DEMODulator	S&H	Sample and Hold
DET	DETetct (DETector)	SLP	Super Long Play
DL	Delay Line	SP	Standard Play
DM	Drum Motor	SPD	SPeeD
DOC	Drop Out Compensator	SRP	Supply Reel Pulse
D.P.E	Drum Phase Error	SRV	SeRVo
D.PG	Drum Pulse Generator	SOW	Sync On Word
EE	Electronic to Electronic	STBY	STandBY
EF	Emitter Follower	S.VHS	Super VHS
EMPHA	EMPHAsis	SW	SWitch
ENV	ENVelope	SW'NG	SWitchiNG
EP	Extended Play	SWP	SWitching Pulse
EP ROM	Erasable Programmable ROM	SYNC	SYNChronize
EQ	EQualizer	T-AUDIO	Tuner AUDIO
FE	Full track Erase	TPZ (TRAPE)	TraPeZoid (TRAPEzoid)
FF	Flip-Flop or Fast Foward	TRK	TRacKing
FG	Frequency Generator	TRP	Take up Reel Pulse
Fig	Figure	T/U	Take Up
FLD	FLuorescent Display	TV	TeleVision
FM	Frequency Modulation	UHF	Ultra High Frequency
Fo	resonance Frequency	UNR	UNRegulated(voltage)
FREQ	FREQuency	V	Vertical or Video
GND	GrouND	VASS	Video Address Search System
H	Horizontal	VCO	Voltage Controlled Oscillator
HP	Horizontal (sync)pulse	VH	Video Head
HPF	High Pass Filter	VHF	Very High Frequency
HQ	High Quality System	VHS	Video Home System
IC	Integrated Circuit	VIF	Video Intermediate Frequency
ID	IDentification	VISS	Video Index Search System
IDL	IDLe (Voltage)	VJ	Video Judge
IMS	Interactive Monitor System	VM	Voltage for Memory
INS	INSert	VOB	Video On Blank
INV	INVerter	VOW	Video On Word
L	Left	VP	Vertical (sync) Pulse
LED	Light Emitting Diode	VPS	Video Program System
LIM	LIMitter	VPT	Video Programming by videoText
LM	Loading Motor	VT	Voltage for Tuning
LM STP	Loading Motor SToP	WHT	WHiTe
LP	Long Play	Y	Luminance
LPF	Low Pass Filter	2H	2 Hour (SP)
ME-SECAM	Middle East SECAM	4H	4 Hour (LP)
MI-COM	MIcro COMputer	6H	6 Hour (SLP/EP)
MM	Mono-stayble Multi		

FINAL ASSEMBLY BLOCK



18. FINAL ASSEMBLY BLOCK

Ref. No.	Part No.	Description
1A	SP-730631J	PANEL REAR VS-P9EV [E,Y7,U]
1B	SP-730630J	PANEL REAR VS-P9EA [EA ONLY]
1C	SP-730629J	PANEL REAR VS-P84EG [EG ONLY]
1D	SP-730649J	PANEL REAR VS-R9EV [E,Y7,U]
1E	SP-730648J	PANEL REAR VS-R9EV-Y1 [Y1,Y2 ONLY]
2	SP-730616J	COVER UPPER VS-P9
3A	BD-VA027A300A	PANEL FRONT BLK VS-P9EV-B [EV ONLY]
3B	BD-VA027A300C	PANEL FRONT BLK VS-P9EA-B [EA ONLY]
3C	BD-VA027A300B	PANEL FRONT BLK VS-P84EG-BTR [EG ONLY]
3D	BD-VA027A300E	PANEL FRONT BLK VS-R9EV-B [R9 ONLY]
4	ZG-387370J	SP MASK
5A	SE-392055J	MASK CASSETTE(A)P9EV [EV ONLY]
5B	SE-392057J	MASK CASSETTE(A)P9EA [EA ONLY]
5C	SE-392434J	MASK CASSETTE(A)P84EG [EG ONLY]
5D	SE-392056J	MASK CASSETTE(A)R9EV [R9 ONLY]
6	SA-387507J	FOOT SX
7	ZG-730627J	SPRING
8	ZS-724879J	BT BID30X105TL BNI
9	ZS-306459	BT BR30X08STL CMT
10	ZS-358936	ST BID30X06STL CMT
11	ZG-731167J	SP-B
12A	*EZ-345815	STOPPER CORD CM-22A [U]
12B	*EZ-345816	STOPPER CORD CM-22B [U]
13A	*EW-725308J	AC CORD (U) [U]
13B	*EW-363669	AC CORD200 0364 LCFL B200 A EV [EV,EG]
13C	*EW-363878	AC CORD220 KP560LTSA B200 A S [EA]

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

19. ACCESSARY

Ref. No.	Part No.	Description
1	EW-348414	CORD PAL
2A	AV-730605J	REMOCON RC-V84A-EB [P9 ONLY]
2B	AV-730638J	REMOCON RC-V85A-EB [R9 ONLY]
2C	AV-730644J	REMOCON RC-V86A-EB [P84EG ONLY]
3	SC-726112J	CASE BATTERY GX-Z9100R